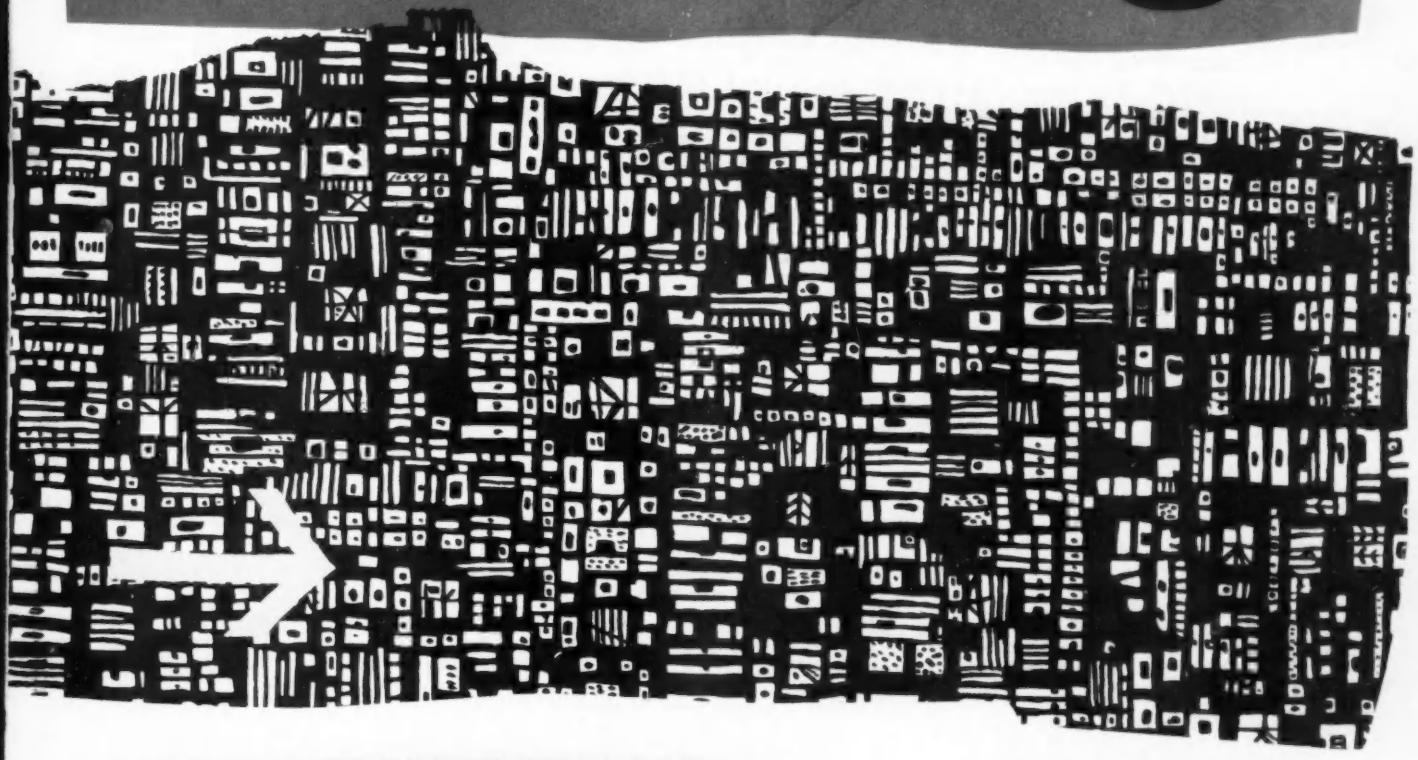
The Council of Industrial Design

November 1959 No 131 Price 3s

Design



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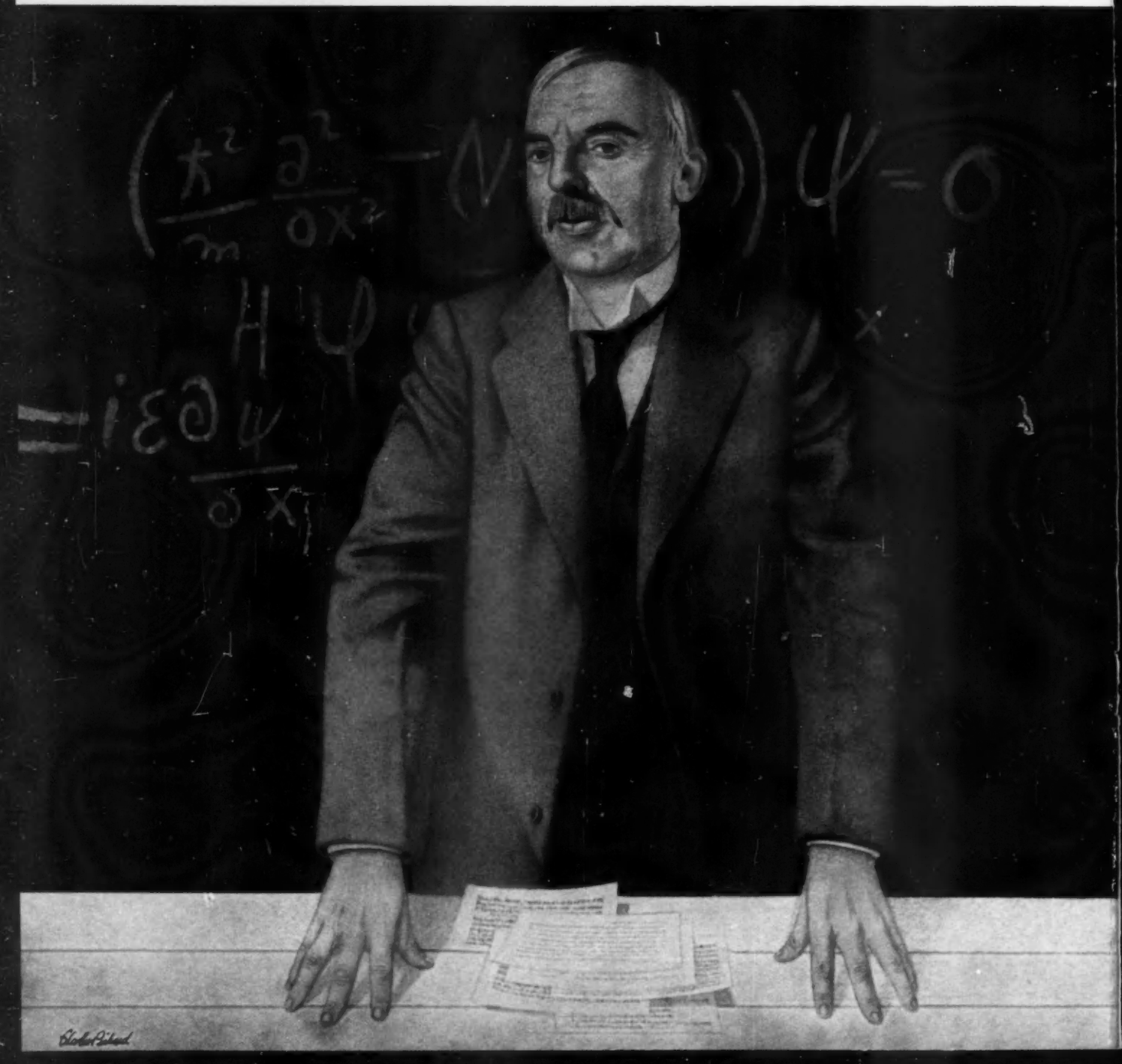

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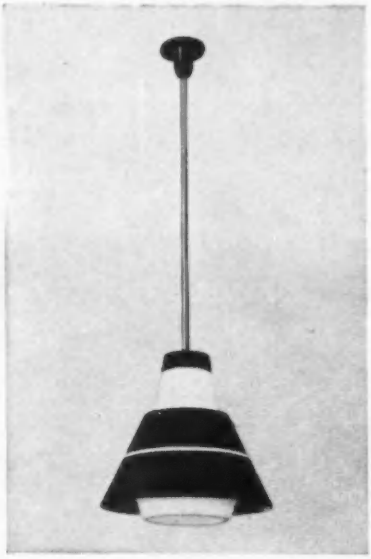

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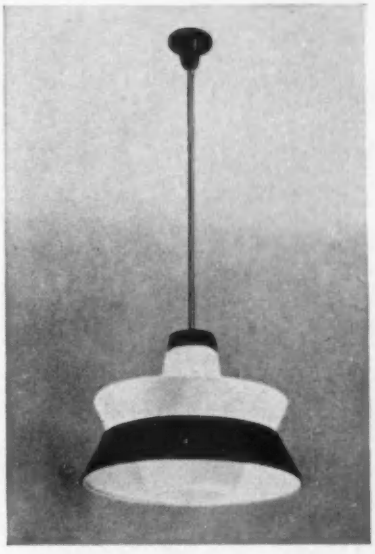

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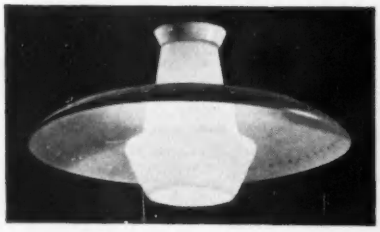

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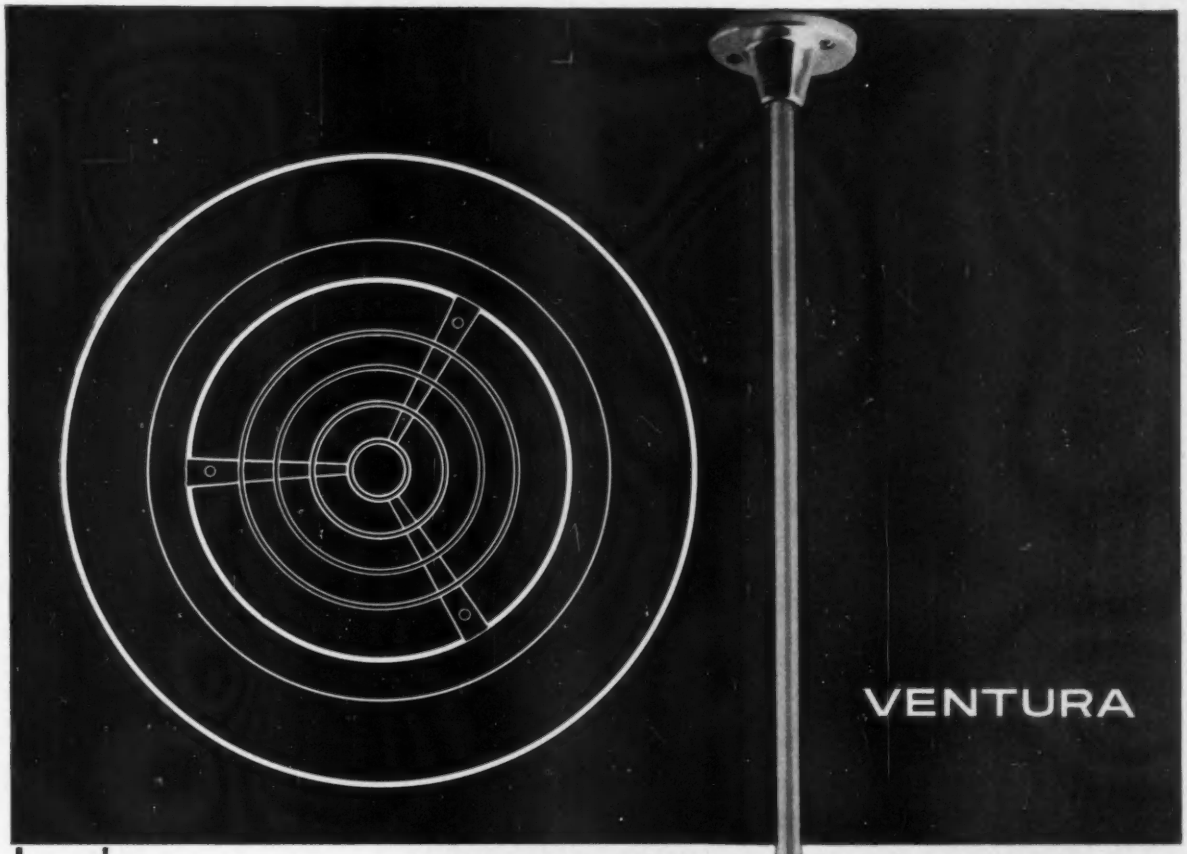

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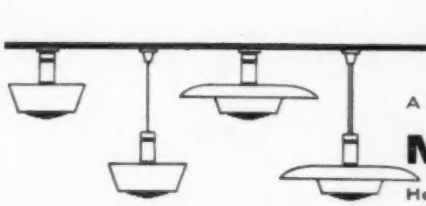

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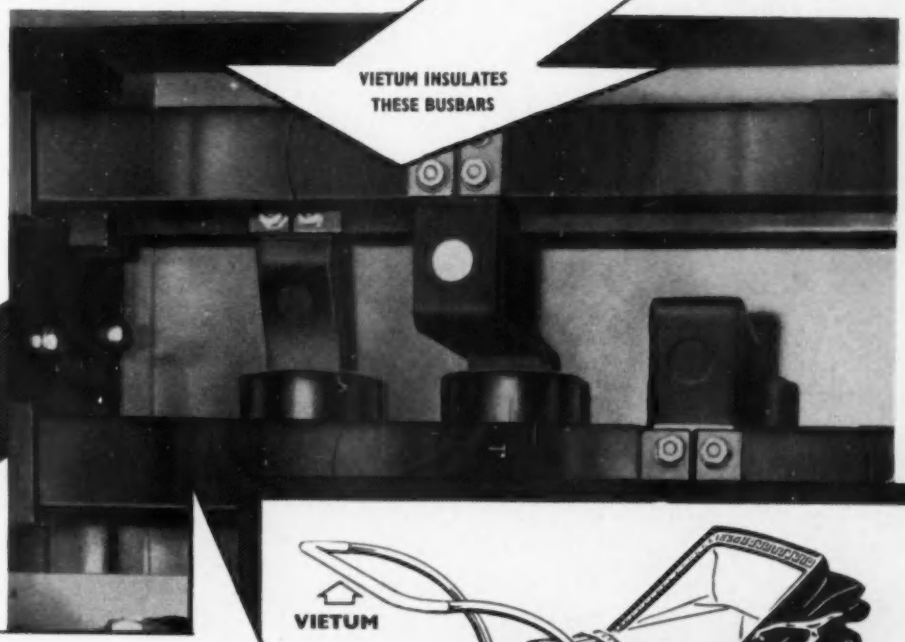

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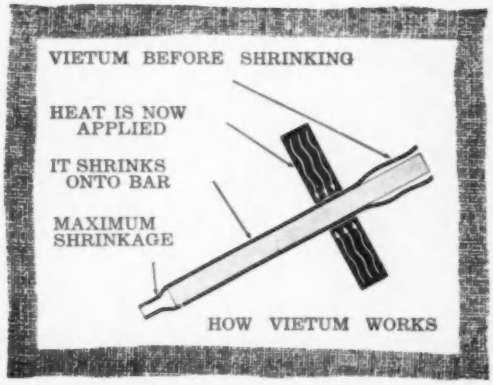

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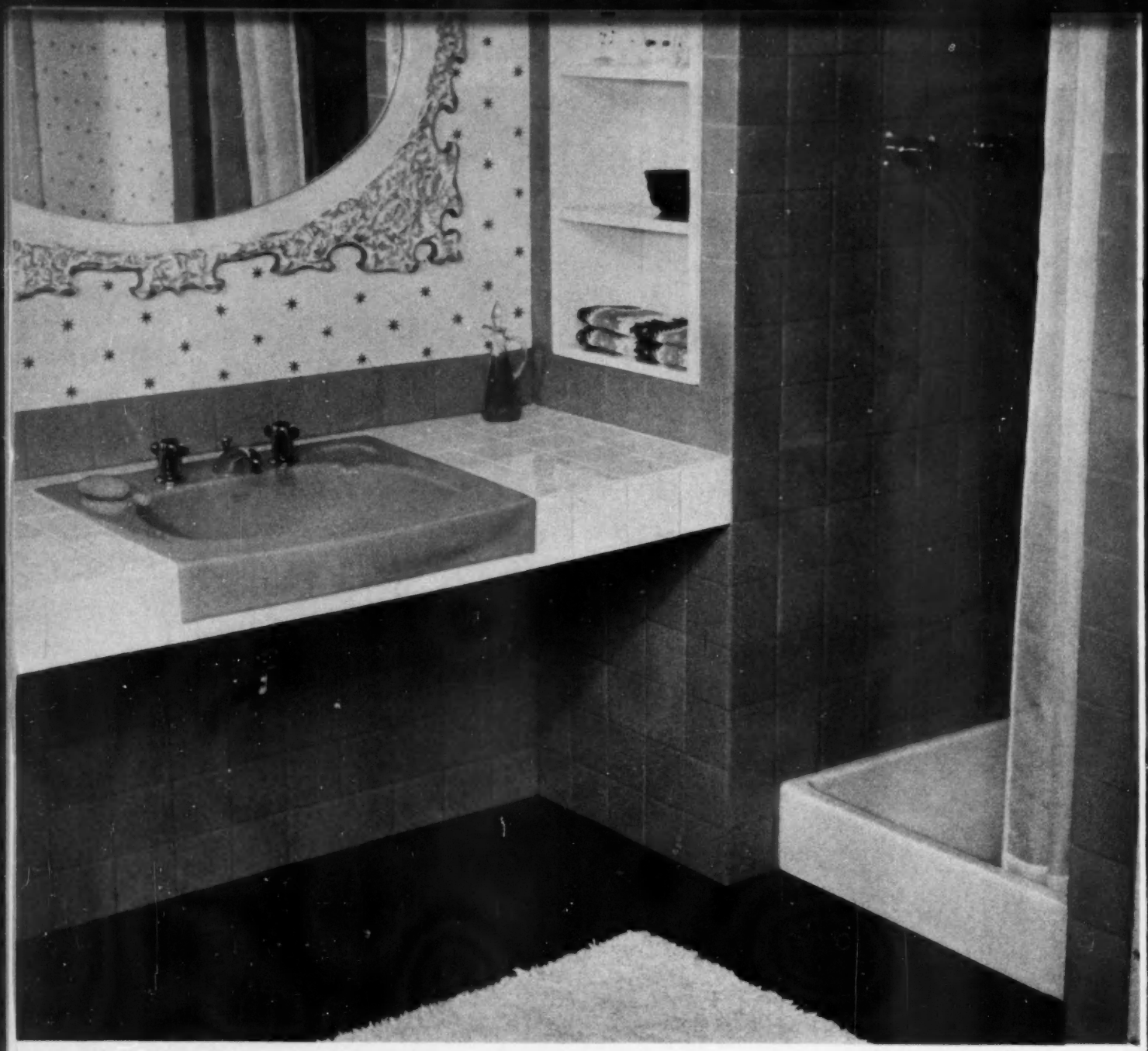

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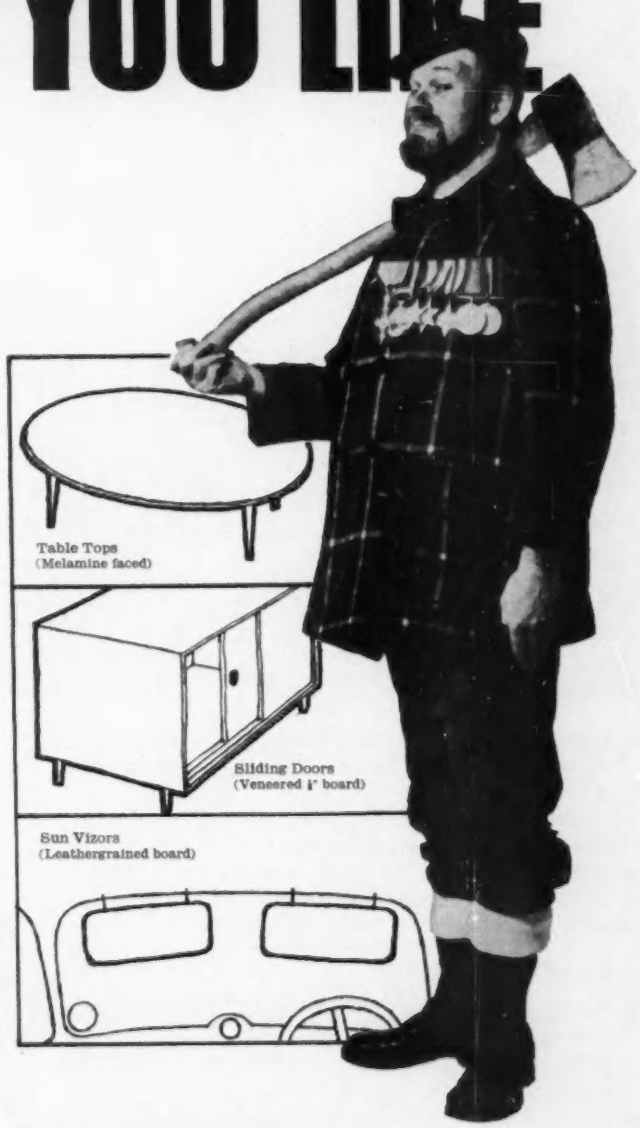

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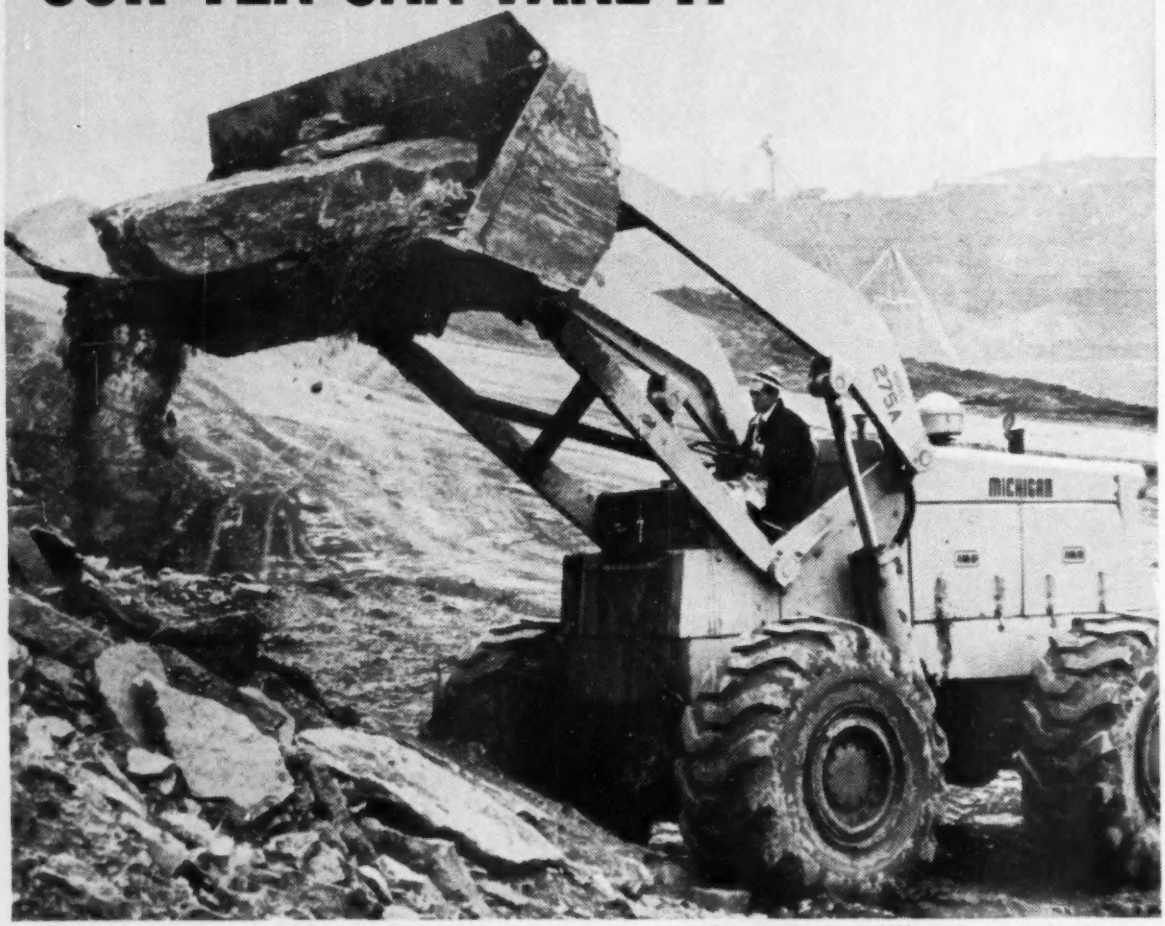

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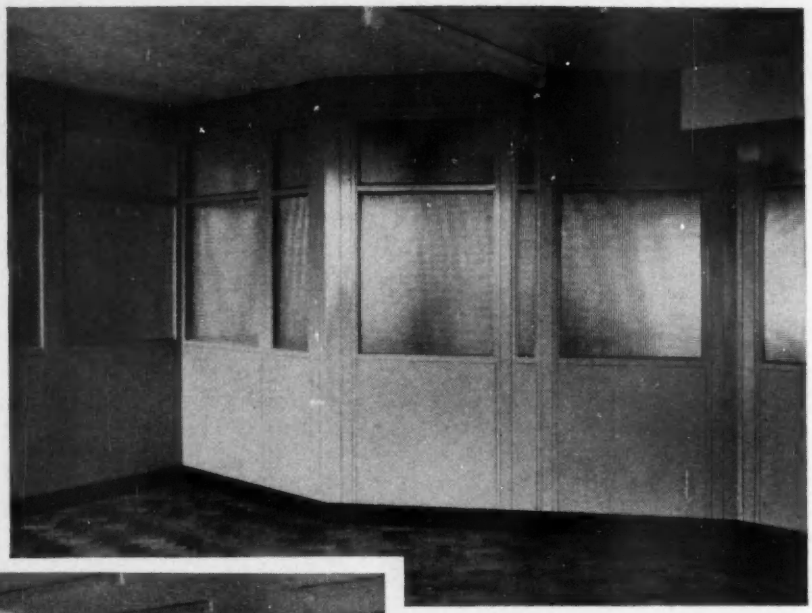

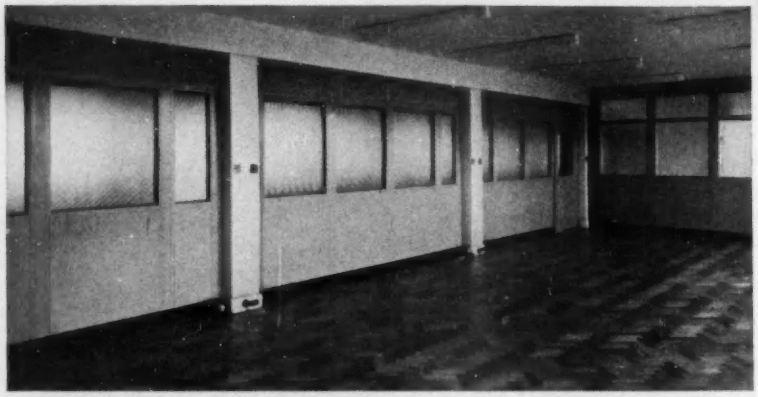

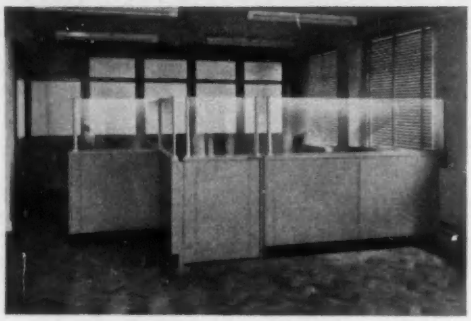

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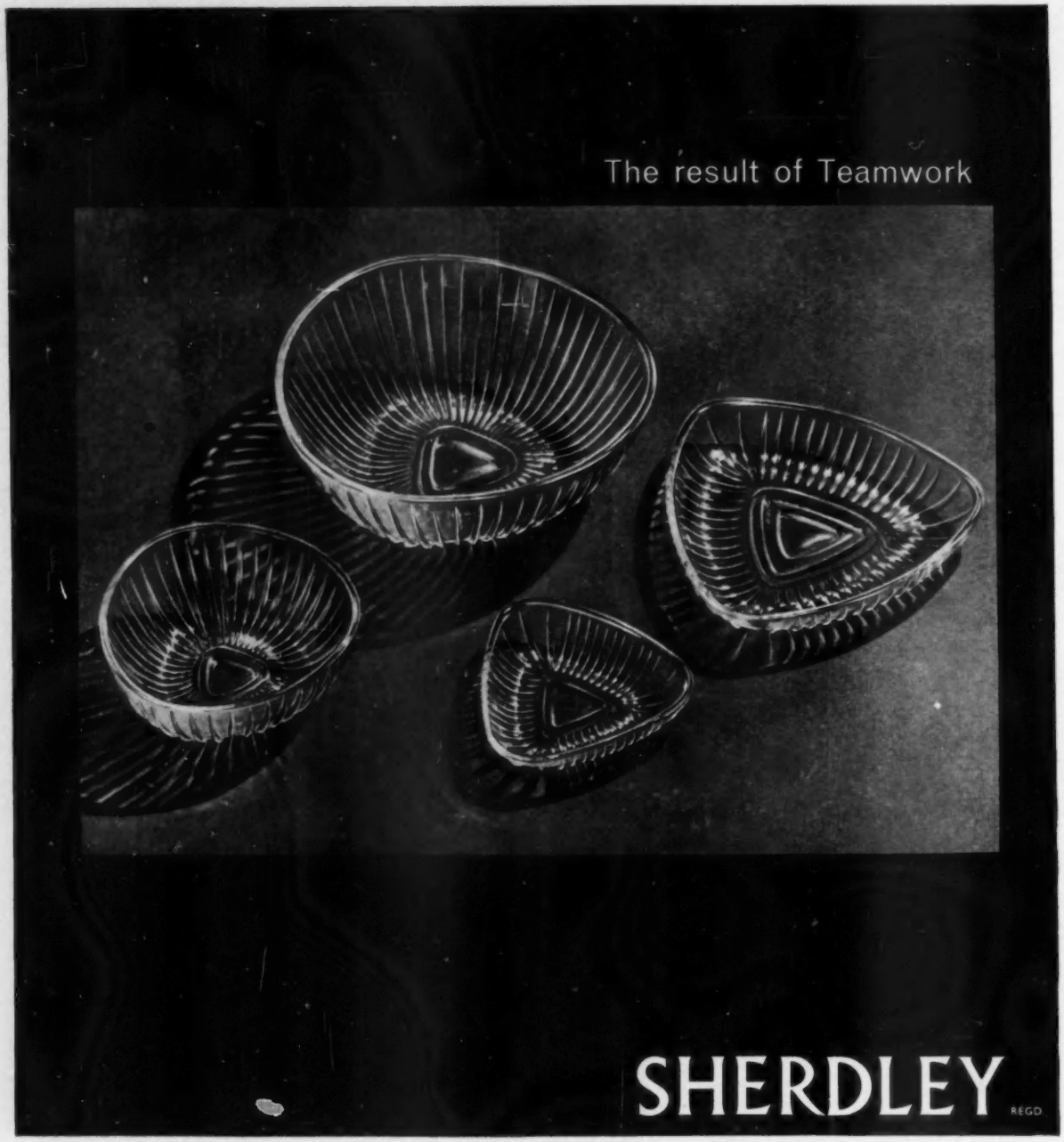

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Number 131

November 1959

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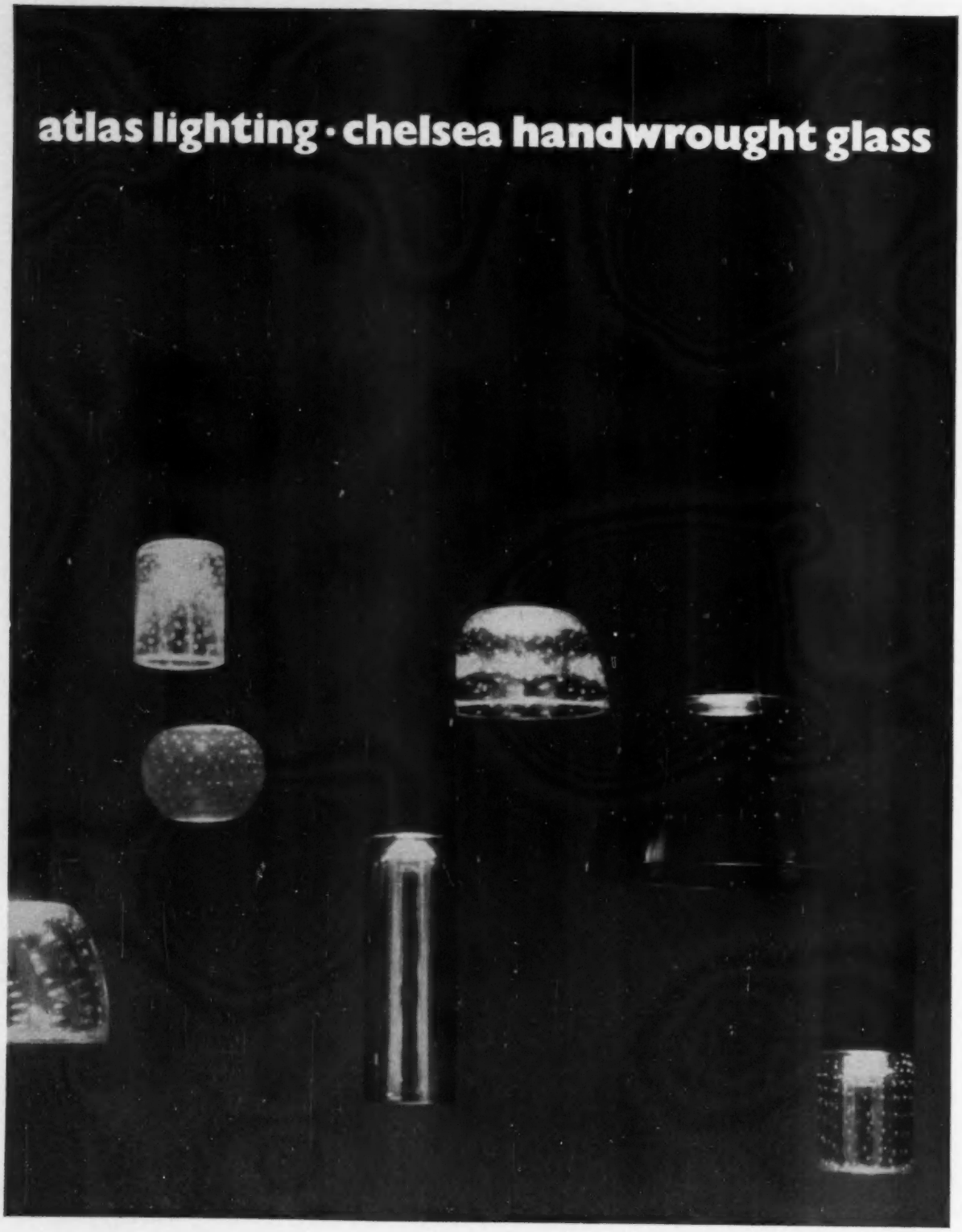

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DTV

Country manners

The inclusion of an article on farm buildings may perhaps lead some of our readers to think that by going into the architectural field we are interpreting industrial design rather broadly. But, starting with the Dutch barn of more than 50 years ago, the tendency has been for farm buildings to become standardised, industrial products, made in quantity in a factory and assembled on the site. This tendency has been greatly accelerated since the war and it seems not unreasonable to apply to these buildings the same critical appraisal as to other industrial products. Perhaps there is even more reason to do so as the taxpayer, who is mainly a townsman, is paying a substantial part of the cost of these buildings, which are in many cases defacing the countryside he goes to look at. As farm buildings are almost entirely free of planning restrictions, which have prevented the least desirable kind of development in other fields, there is at least an implied responsibility on the farming community to see that they reach a reasonable standard of design. There are three main reasons for the present state of affairs:

1 In most cases these buildings are made with inadequate or no architectural advice. This is not altogether the fault of the makers. Architects, until quite recently, have been inclined to regard such buildings as temporary shacks which are beneath their notice. There is, of course, no reason why they should not have a beauty of their own: the kind of beauty which springs from the entirely appropriate use of material and technique by a competent, sensitive designer.

2 There is little, if any, co-ordination between the makers of different types of farm buildings, which will later be assembled alongside each other. Under such conditions it is extremely difficult to build up a satisfying architectural group which fits into the landscape.

3 It is not easy for a farmer to get skilled and reasonably inexpensive architectural advice in order to achieve a layout of buildings which is strictly efficient and beautifully related. As every site and type of farm presents its own special problems, no standard form of layout meets the case.

It should not be beyond the wit of man to overcome these difficulties, once it is realised that they exist. But they will have to be overcome by grappling with them in a realistic way, not just bemoaning the loss of so many of the delightful farm buildings of the past which have given great character to the English landscape. If they are not tackled the rural scene will suffer to an ever-increasing extent from that creeping blight of ugliness which many towns are now making strenuous efforts to combat. G.R.

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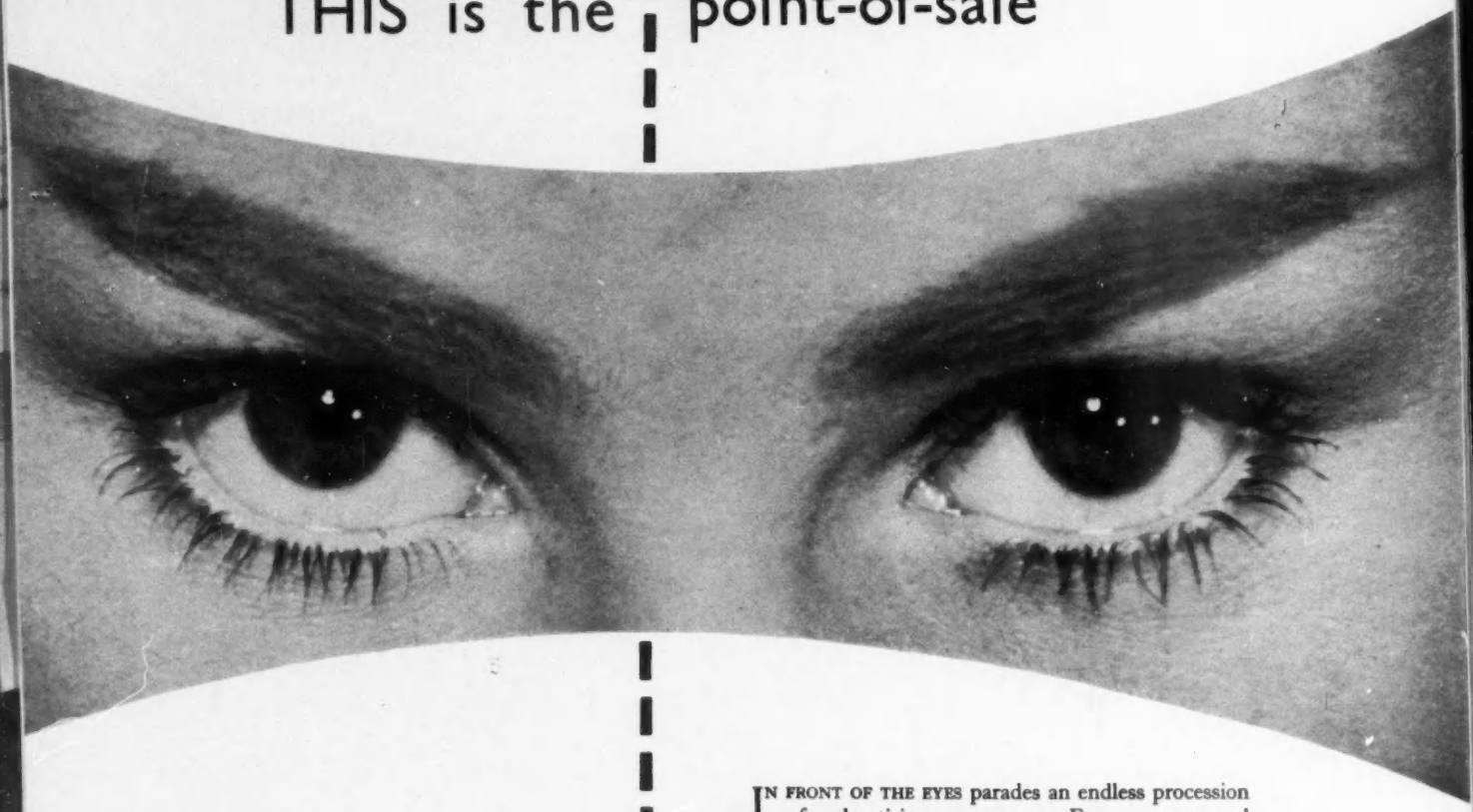

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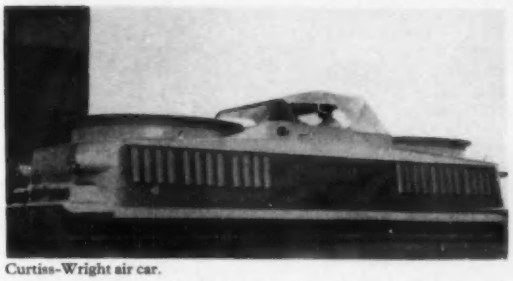


Curtiss-Wright air car.

Is it quite me?

It had to happen. Some American manufacturers have got together and set up a Home Fashions League. It is just what it sounds like – an organisation which intends to encourage other manufacturers and the public to accept fashion design in consumer goods. This is a fearful thought, but I suppose things can't get too out of hand until people are prepared to change their suites of furniture every year in the same way they now change their cars.

I can't help thinking the league may be too late. I'm told, by an American design journalist, that there has already been a small revolution in the top people's approach to design in New York. A few years ago you would find the same pattern of furniture in every house or flat owned by anyone who was – as they say – anyone. There would be a George Nelson table, Saarinen dining chairs and a large Eames chair in the corner. But things have changed. There is a tremendous swing towards antiques. The reason for this, I'm told, is that the little woman has grown tired of watching her tea party eyeing the *décor* and totting up the cost of items they know very well. Apparently she doesn't want the Jones's to know if they are keeping up – and this is something she can do very easily by choosing from the enormous range of bogus period pieces. She feels fairly safe because, as my informant points out, very few people know any more about genuine antiques than she does.

No link with the Olde Worlde

A colleague who has been helping to arrange *The Design Centre comes to Ghana* exhibition, which is to be held soon at the Kingsway Stores, Accra, tells me that he is impressed by the enlightened interest the local organisers are taking in good design. "You must remember", he was told, "that we are a new country. We have no traditions to influence our taste, and we are therefore more inclined than some countries to accept good modern design." (See page 71)

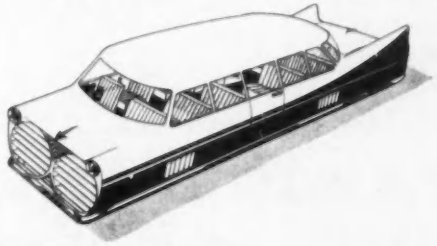
Look, no wheels!

Sometime this month the Curtiss-Wright Corporation hopes to produce America's first air car. It will travel over land or water at a height of 6 – 12 inches, in much the same way as Britain's flying-tea-cup-and-saucer, the Hovercraft, which was tried out earlier this year. It may not be fair to compare the two, but there is one thing to be said very much in favour of the Hovercraft – it *looks* as if it is a new form of transport. The air car, on the other hand – as you can see from the picture on this page – is made to look very much like an ordinary car. The manufacturer of the Hovercraft, Saunders-Roe Ltd, has something similar in mind and this, I'm sorry to see, has been dressed up in an artist's impression to look even more like a car, complete with tail fins and 'radiator' mascot. Perhaps the manufacturer is afraid that anything less like a car would frighten off potential customers. But I imagine it is simply an example of Parkinson's law at work in the world of design.

Incidentally, the production of the air car, which can travel over any kind of ground, makes sense at last of General Motors' decision to build a warning radar system into the new Cadillac. Presumably the Cadillac will be at its most useful whenever an air car is likely to spring out from a ploughed field.

Travelling more hopefully

Perhaps by the time Britain's air car is actually built, and it won't be for a year or more, the inventor of the Hovercraft system will have had his say in its appearance (which he hopes to do) and will have changed the artist's impression into something less conventional. If he does so he will be in line with the present policy of improving transport design. As the readers of this magazine will be discovering more and more, there is suddenly an all-round improvement in design policies for air, road, rail and sea transport.



Saunders-Roe impression of a Hovercar.

Last month DESIGN featured some new and improved buses as well as a *Design Analysis* of the new Triumph *Herald* – a car in which the cost of repairs and servicing has been reduced and safety for the driver has been increased. (An insurance company has offered a 12½ per cent reduction in premiums.) And this month you will find the first of a series of articles showing the influence of the British Transport Commission's Design Panel. The series will include an illustrated article on the interior design of a new channel car ferry. All this – together with the production of the two British baby cars (likely competitors for the three best-selling Continental models, in spite of their substitution of the pudding look for the crisp look) – suggests that the design conscious citizen will soon be transported with delight. KENNETH J. ROBINSON

1

1 A traditional group in brick, tile and timber. The layout has developed logically from the farmstead, each addition using similar local materials which combine sympathetically with the landscape. An element of accident in roof lines and wall junctions emphasises that these buildings have been individually designed for the site.

industrially produced

FARM BUILDINGS

J. NOEL WHITE

This article is based on a brief survey of the various types of mass produced farm building now available in Britain. The author outlines the advantages and shortcomings of some of the components offered, and suggests that the industry has yet to produce a well designed and efficient building.

Of all the buildings which impress themselves on the countryside, the farm and the church have been the most insistent. The dark satanic mills of the Industrial Revolution and the latter-day arteries of the atomic station, exposed like a diagram against the sky, inevitably attract to themselves urban accretions which prevent them becoming single architectural features articulated with the landscape. For more than a thousand years the farmer and the priest were the economic giants of the land. The prosperity of the wool farmers was reflected in the flowering of Perpendicular architecture, and even in the last century high farming and the Gothic revival were contemporaries. Now the Church is a rare builder and, with a few exceptions, modernism in the Church is merely an approach to doctrine.

The farmer on the other hand has been forced by economic circumstances to bring his theory, his equipment and buildings into line with modern requirements. Even so, the days of dog and stick farming to some extent still colour the attitude of many farmers, and shortage of capital inhibits agricultural development of all kinds. Recently the Government has recognised this stumbling block to efficient farming, particularly for smaller acreages, and has now authorised a system of

2

2 At Biddenden Green Farm the modern barn makes a positive contribution. It has been carefully sited for convenience, and at the same time the contrasting element of the modern building unifies the group (fifteenth century farm house, thatched barn and oasthouse). MAKER *R. Passmore & Co Ltd.*

capital grants on a 33⅓ per cent basis for permanent equipment, which may amount to some £50 million during the next 10 years. Although the occupier or owner must still find two-thirds of the capital, the old excuse of lack of money for the shoddy inefficient shacks of the inter- and immediately post-war years will fortunately have less substance. The rate of modernisation and replacement of farm buildings is now likely to be on a substantial scale; its effect on productivity may be all to the good. But the advantage to the landscape, judged on present form, is doubtful. This danger is amplified by the immunity of the farmer from planning restrictions. With very few exceptions he can put what he likes where he likes.

Lack of policy on design problems

Like other industries, such as plastics, mass produced farm building has suffered in the past from being regarded as a cheap substitute, and the industry has grown mainly from small firms or from the side lines of larger concerns. The chief influence has been the engineer, with varying degrees of qualification, supported by draughtsmen who translate into technical terms ideas put forward in general discussion by the management. Some firms employ consultant engineers to check the results, but there seems to be little evidence of a design policy at management level, or of any thorough design organisation. One obvious exception, however, is Kent Concrete Products Ltd, a firm which designs and manufactures precast concrete frames for industrial and farm buildings. The firm's design staff, which consists of a team of draughtsmen and a consultant engineer, is supervised by one of the firm's directors who has had some design training. He has the final decision on the design of a new frame, and this form of intelligent teamwork has led to the production of some of the most satisfactory designs the industry has to offer.

Several of the leading firms that have made the first moves towards better designs recognise the shortcomings of the industry in terms of the products' makeshift character and poor standard of appearance. Most managements, however, feel that a higher standard of design, finer finishes and detailing are not normally required, and that any customer sufficiently eccentric to want them should go to an architect and order an expensive bespoke building. The industry is naturally concerned with buildings that have a wide general application, and there is little incentive to experiment because farmers

on the whole are more price conscious than discriminating. The industry can by and large sell most of its production without improving the design.

Roof pitch

One of the least attractive features of the industrially designed farm building is a slack roof pitch of about 22½°. On a large span which has a wide sweep of roof, so that there is a greater proportion of roof to wall, this pitch can look quite well. But on a short span the slack pitch gives a lanky look to the structure, falling uneasily between the tautness of a high pitch and the clean lines of a flat roof. This is not to suggest that the modern farm building should emulate the proportions of the medieval tithe barn, but that the ugliness of the present pitch on the small building should be recognised and designs devised to reduce this effect. Kent Concrete Products Ltd has recently introduced an 11¼° pitched frame, **4**, which may prove an answer to the problem. Although lower pitches are used in other countries, here, if the farmer is to qualify for a grant, the Ministry of Agriculture insists that the laps must be sealed on a pitch below 22½°, and this can increase the cost to the farmer.

The essential difference between the normal industrial structure and the farm building is that the former tends to be specialised and remains so for long periods, whereas the farm building may have to fulfil a different use every five or 10 years. It is therefore particularly unfortunate that many farm buildings originated as by-products of industrial buildings. The manufacturers are rightly concerned with the strength, lightness and convenience of the structure; and the more thorough the analysis of the function the greater the visual merit of the components. Unfortunately the cladding is given far less attention than the frame, and is the main target of criticism from those who care for the landscape.

A brief survey of the designs at present available is

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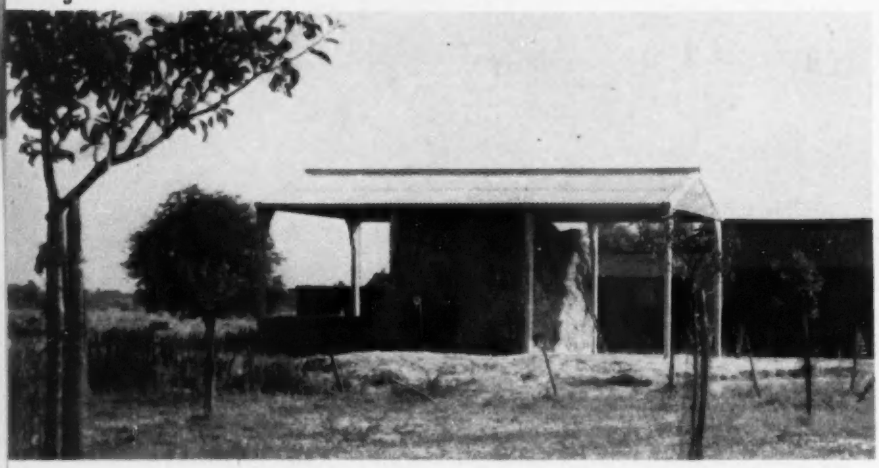

3 Unclad, concrete frames such as this design are in keeping with most farm settings. The cladding, when it is added, can all too often ruin the appearance of the building. MAKER *Atcost Ltd.*

4 and **5** The standard pitch of 22½°, **5**, can be particularly ungainly on a narrow span with stanchions of the standard height. On this site it contrasts very unfavourably with the fine proportions of the traditional barn in the background. The 11¼°, **4**, pitch has only been developed recently in this country. Although the Ministry of Agriculture requires, for purposes of grant, that the laps must be sealed, this design offers a more satisfactory solution for medium-sized farm buildings. **4** MAKER *Kent Concrete Products Ltd.* **5** MAKER *Atcost Ltd.*

6 A partly clad prefabricated barn which introduces a vigorous and acceptable accent of contrast into a traditional group. MAKER *R. Passmore & Co Ltd.*

concrete

The material which has been most exploited for the frame is concrete; it has two outstanding advantages, durability (although this may be exaggerated), and low cost of maintenance. On the other hand it is heavy, so that only comparatively small sections can be handled by two men without special gear. (The cost of erection is included in the selling price, which, as far as the manufacturer is concerned, may have to cover the use of specialised labour and expensive equipment.) Concrete manufacturers are striving to reduce the weight of structural sections without shortening the span, and a few are producing frames with slim members which are efficient and good-looking when they are free-standing. Concrete is liable to fracture when it is struck and the difficulty of repairing it means that the building and its cladding should be carefully designed to avoid vulnerable projections. From the farmer's point of view far more attention should be paid to this.

Concrete tends to increase condensation, and is damaged by acid or abrasion; it is, however, an adaptable material and is also well suited to precast silos, troughs and storage bins. Unfortunately if the problems of finish are not carefully considered the texture of concrete and asbestos can be dead and uniform, particularly on a large uninterrupted surface. Some manufacturers, however, are now introducing glass fibre moulds, which they claim give an exceptionally good finish, with no increase in cost to the farmer.

not encouraging, although the principal materials which are used are capable of better results than have been obtained so far. Architecturally most of the designs suffer from the same faults: an unsatisfactory relationship between the roof and elevations, an unattractive pitch of roof in the smaller spans, a discord between the structural members and the cladding, and a coarseness of detailing. Frequently these prefabricated buildings are visually satisfactory as a structural skeleton supporting a roof, but ill-considered cladding reduces them to clumsy boxes; the Dutch barn generally looks better than the cowshed. The Dome of Discovery in 1951, which was so magnificent before its cladding was added, finally suffered from the same visual anticlimax.

The type of building which is now needed must have a reasonable cubic capacity so that it can be adapted to several uses as the seasons and the pattern of farm operations change. The predominant need is for a building with a span of between 20 and 40 ft, giving an uninterrupted floor space which can be used for storage or stock. For most farming operations a single storey only is required, although bulky crops such as straw require considerable height; a second storey presents operating problems on the normal site and its support involves stanchions which encumber the space below. There is great variation in the degree of insulation required, from crops such as hay, where it is negligible, to pigs, where it is of such importance that a specialised building is often needed. But insulation can usually be added to most standard buildings when it is required.

Farm buildings get rough usage and they must be designed to withstand the damage that can be caused by tractors, heavy implements, horned cattle and bleak exposure to storms and frost. The relative importance of these requirements will affect the choice of material in which the design is to be carried out. The principal candidates are concrete, timber, and steel, with suitable walling or cladding.

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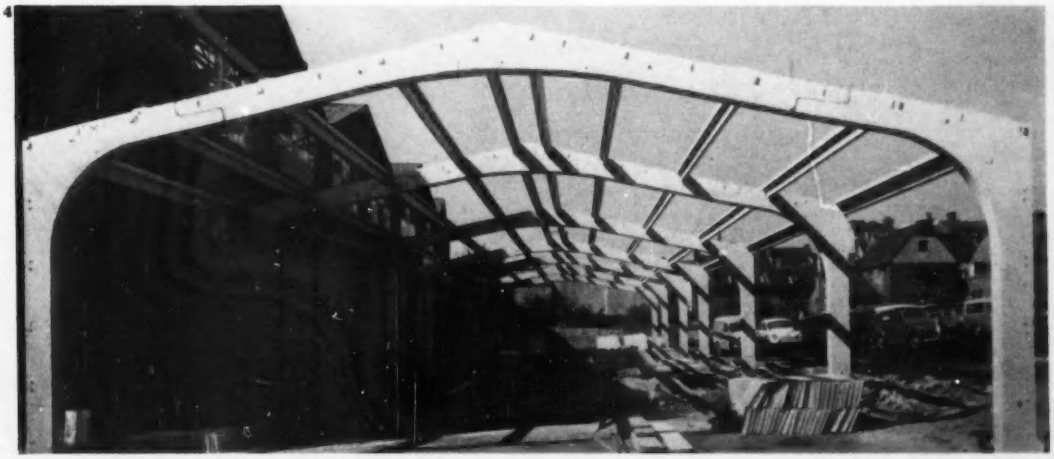

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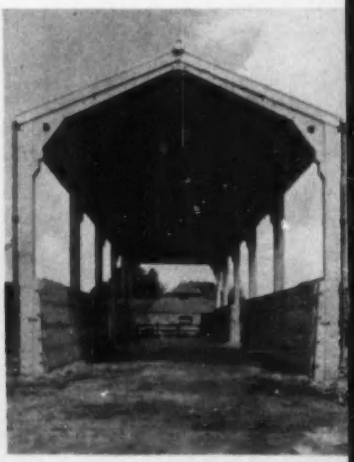

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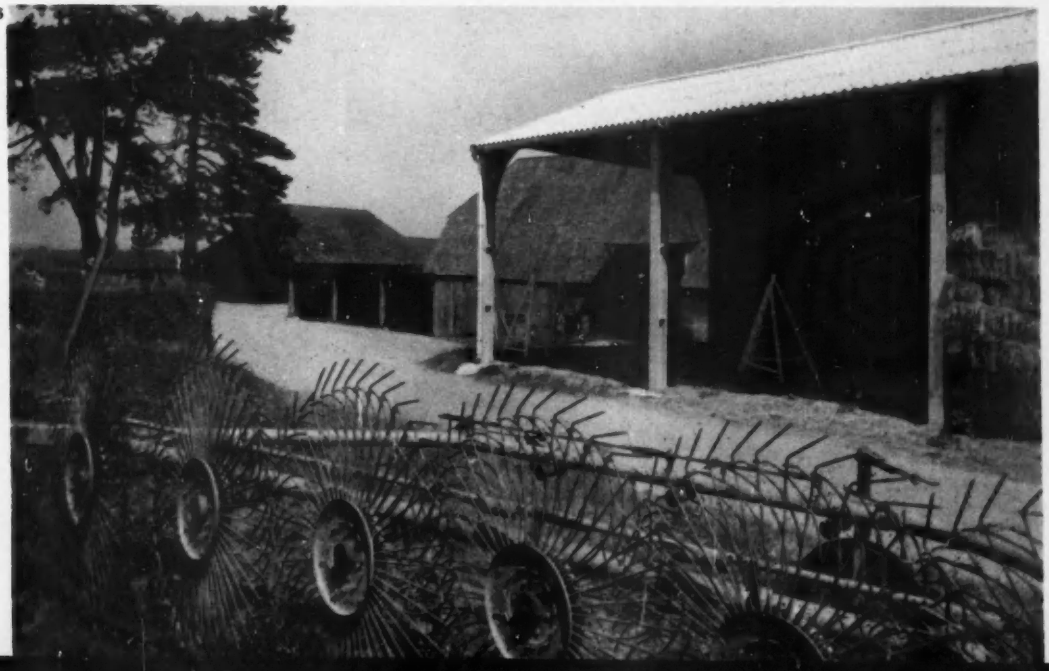

continued

Scope to exploit design potentialities of old and new materials

timber

Timber was at one time a cheap and widely available material. Grown locally in many areas, it was used in heavy sections for sizeable spans. As it became more expensive so it waned in popularity. But latterly frames have been designed with light sections of timber using double posts and rafters joined by bolts, with toothed plate connectors and channel sections, which eliminate complicated joinery. These techniques, and the effectiveness of modern preservatives applied under pressure have made timber once again an economic proposition. Several designs in prefabricated wooden buildings have been pioneered by the Timber Development Association, and a system of strong light members has been devised. These are rather crude in detail but there are great possibilities in this use of timber for designs which can compete in price with other materials. The TDA has also developed a paraboloid plate roof which is ingenious and effective, **10**, but which would have to be less costly to appeal to most farmers.

Timber as a material helps to reduce condensation and humidity; it is not readily fractured and is easy to repair, but for some stock it is not tough enough and it will harbour pests. But timber has the great advantage that it can be re-used when the original building becomes redundant. It is very much in the running if sufficient imaginative and practical designs are forthcoming.

7

8

7 The magnificent timber frame and cladding of this great barn at Wye Agricultural College was designed when timber was cheap and farming was not mechanised.

8 and **9** Modern timber frames must be more economical of wood, and cover wider spans. This design uses channel sections with toothed plate connectors; although the method meets today's requirements, it has so far failed to achieve a reasonable standard of appearance.

10 Timber has been used effectively in this paraboloid plate roof, recently introduced by the Timber Development Association. The roof has been designed to be supported by a single pillar at each junction of the four main panels, leaving the corners free of support. Unfortunately in this case the four-point support which is the most striking feature of the roof has been abandoned to accommodate the cattle trough. ARCHITECT *C. H. Smith & Partners.*

9

11

steel

Steel was widely used before the war, but apart from the portal frame, there has been little recent development in the design of steel structures for the farming industry, and there is still a need to improve the design of fittings. Steel is bad for condensation and tends to corrode, particularly from the ammonia in livestock buildings. Angle steel is costly and especially dangerous to stock and implements; it must be regularly maintained and as most systems of trusses are designed as a forest of exposed surfaces this cost can be formidable. Steel is also a cold material and adequate insulation may be expensive. On the other hand, it can be very useful for spanning wide spaces and adding new roofs to existing walls. It is also easy to transport and erect.

11 A forest of steel usually presents an unwelcome problem of maintenance.

continued

10

12

cladding

The difference in standard between the better designed frames and the cladding of the finished building, and the need for more contrast between the roof and walls in a building of slack pitch and little overhang at the eaves, are basic design problems which so far the industry has not faced. This overall featurelessness is aggravated by the monotonous repetition of small scale corrugations and by the lack of fenestration in the walls (normally the farmer wants roof lights, not windows). To some extent this monotony can be overcome by the careful and imaginative selection of designs of roofing materials and cladding.

The range of textures and finishes available is by no means wide, but the discriminating farmer can assemble a better building than the average, and thereby contribute to, rather than deface the countryside.

Nearly all the light cladding materials suffer from their vulnerability and the protective measures which must be taken can in small buildings often outweigh the advantages of the mass produced cladding. Where a generous footing of brick or stone has to be built, the economy of changing to a light cladding for the remain-

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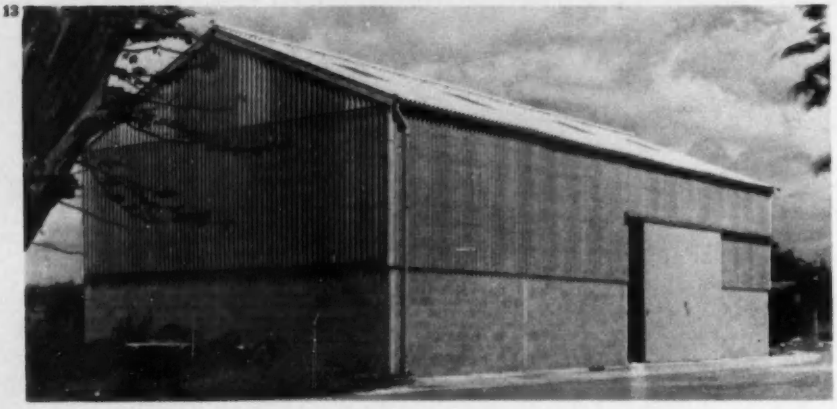

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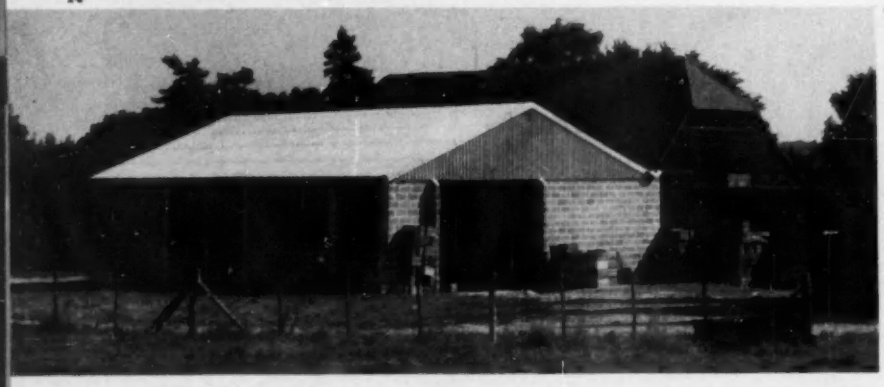

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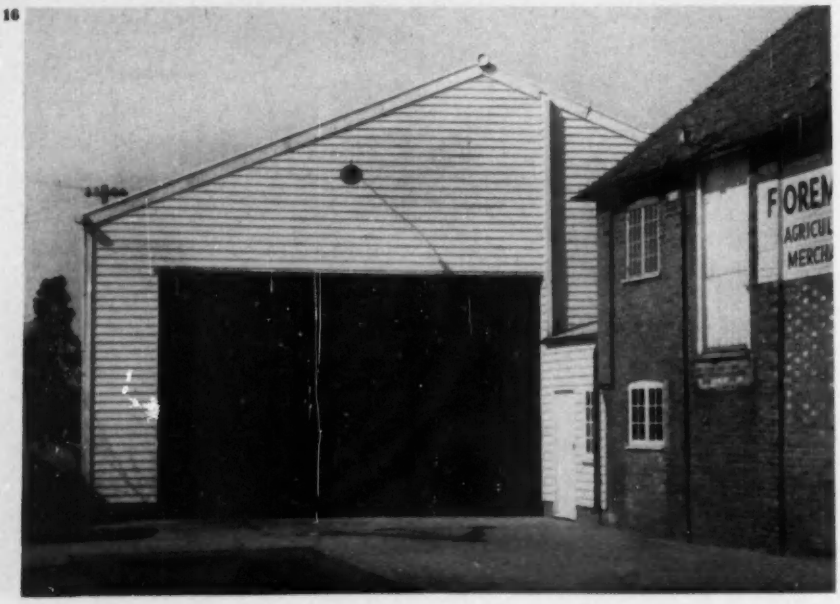


12 Ill-considered cladding such as this magpie collection of sheets makes a farm building an eyesore.

13 This concrete frame has been clad with some appreciation of the problems involved. The concrete blocks harmonise with the asbestos sheeting, the difference in texture avoids monotony and the high sliding door breaks up the long elevation. MAKER *R. Passmore & Co Ltd.*

14 This is a reasonable attempt to site a small packing shed in a traditional group, but the scale of fenestration, concrete blocks and roof corrugations have not been considered. MAKER *E. W. Tyler & Co Ltd.*

15 Aluminium is usually too costly for general farm use, but its bold corrugations can look well, particularly in contrast with local tile and clapper board.

16 The road elevation of this large prefabricated store, with sliding doors has been weather-boarded and painted white to complement the adjoining brick building. MAKER *E. W. Tyler & Co Ltd.*

17 and **18** Clad with bold corrugations and plain concrete walls this wide span sits down well in the landscape. Conventional eaves are replaced by a round moulding leading into internal gutters. MAKER *Coseley Engineering Co Ltd.*

ing few courses is doubtful if the wall is comparatively low. When brick is used to the eaves it can complement the frame without obscuring it.

However, until the industry solves this problem of cladding, there is still much to be said for using local labour to fill in the frame with more conventional materials, leaving exposed, but not vulnerable, the precast concrete frames. If the materials are carefully chosen, they produce a better effect and give the resistance to rough treatment that most farm buildings need. But it would be still better if the industry produced its own satisfactory solution for an integrated building.

Asbestos sheeting is one of the most used cladding materials. It can fit into the landscape if used skilfully in varying corrugations and large uninterrupted expanses are avoided. Under favourable conditions it will weather attractively and can be treated to encourage vegetable growth. But it is easily fractured by implements or stock, so that the vulnerable areas have to be protected by courses of concrete blocks, stone or brick.

Timber can be effectively used for cladding. It conserves heat very well, and traditional materials such as weatherboarding can be treated in an entirely modern way, and are thoroughly acceptable in the countryside. Red cedar, for example, weathers to a finish of silver-grey which is remarkably fine. *Steel* as a cladding material rarely looks well; it needs ample protection near the ground and requires regular maintenance. *Aluminium* has been used for roofing and cladding. It is made in handsome bold corrugations, and there is a neat device for clipping it to battens; but it is usually ruled out because of the cost.

The industry has now gone some way to produce prefabricated frames which are capable of providing the basis of efficient farm buildings compatible with the landscape. But the need – and it is a very great need – is to clad them in a manner acceptable to the farmer who has to use them and the public which sees them as prominent features of the countryside. The farmer is frankly not interested in saddling himself with regular annual maintenance or the job of applying pretty colours to unattractive materials; he wants less work and expense, not more. He wants the durability and the comeliness which he had from traditional stone or brick, together with the structural convenience and flexibility of the new. In some cases he will be able to effect a straightforward combination by using the modern frame and infilling with local materials.

17

18

little design advice for the farmer

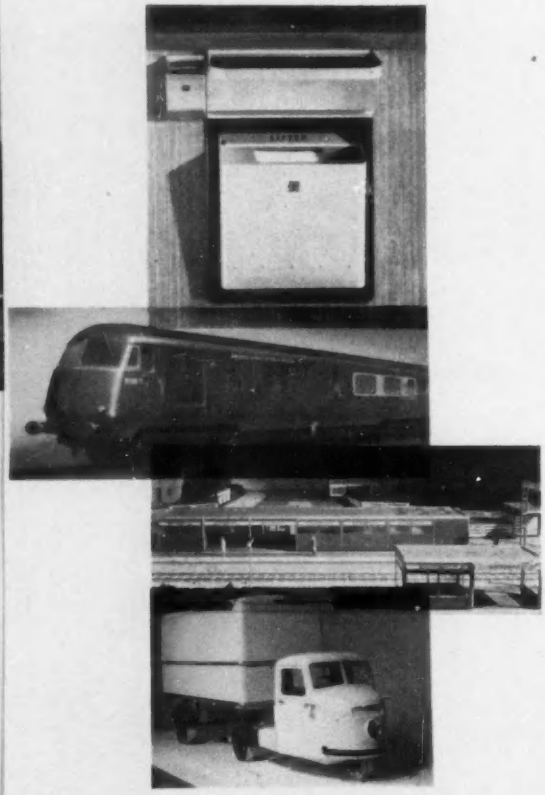
The farmer is not in a happy position to obtain advice. The number of architects who have experience in farm building is few. The Ministry's practical advice on the use and layout of buildings stops short of many of the problems raised here. But in America, where farming operations are carried out on a much larger scale, the development of a commercial and nation wide advisory service is an economic proposition.

It is regrettable that the Government's scheme has not discouraged the mushroom growth of firms which offer buildings very far below the standards discussed here, a development which should be considered in redrafting the regulations so that emphasis is given to quality rather than minimum cost. Although the industry has little incentive to improve design, it should, in its own, and in the national interest, examine the problems and seek expert advice from architects or industrial designers, so that it can establish a reputation for quality and standards. For it is preferable that the industry should make the first move, rather than wait for the cumbrous machinery of Government – which in many cases will be paying one third of the bill – to attach some condition to the grant to maintain the appearance of the countryside. Agricultural colleges could also set an example by including an occasional lecture on the subject.

There is no fundamental reason why the prefabricated farm building, if designed well by industry and sited carefully by the farmer, should not in some ways make as creditable a contribution to the landscape as many of the fine traditional farm buildings have done in the past. The farmer's pre-occupation with function and economy need not prevent the designers of these buildings from combining those requirements with a high standard of appearance. This has been done before by previous generations, and can be done now if the manufacturers face up to the problems and hire the skill to solve them, and always provided that the farmers in their turn give their custom to those who succeed.

modernising British Transport no. 1

This is the first of a series of articles dealing with new equipment for the British Transport Commission. The influence of the B T C's Design Panel in the modernisation programme is discussed in the following introduction to the series which has been specially contributed by T. H. Summerson, chairman of the panel. A review of rolling stock and station signs for the Glasgow suburban railways, now being electrified, begins on page 40.



Future articles in the series will discuss, among other subjects: new carriage fittings, a luxury Pullman train, station design, and equipment for British Road Services.

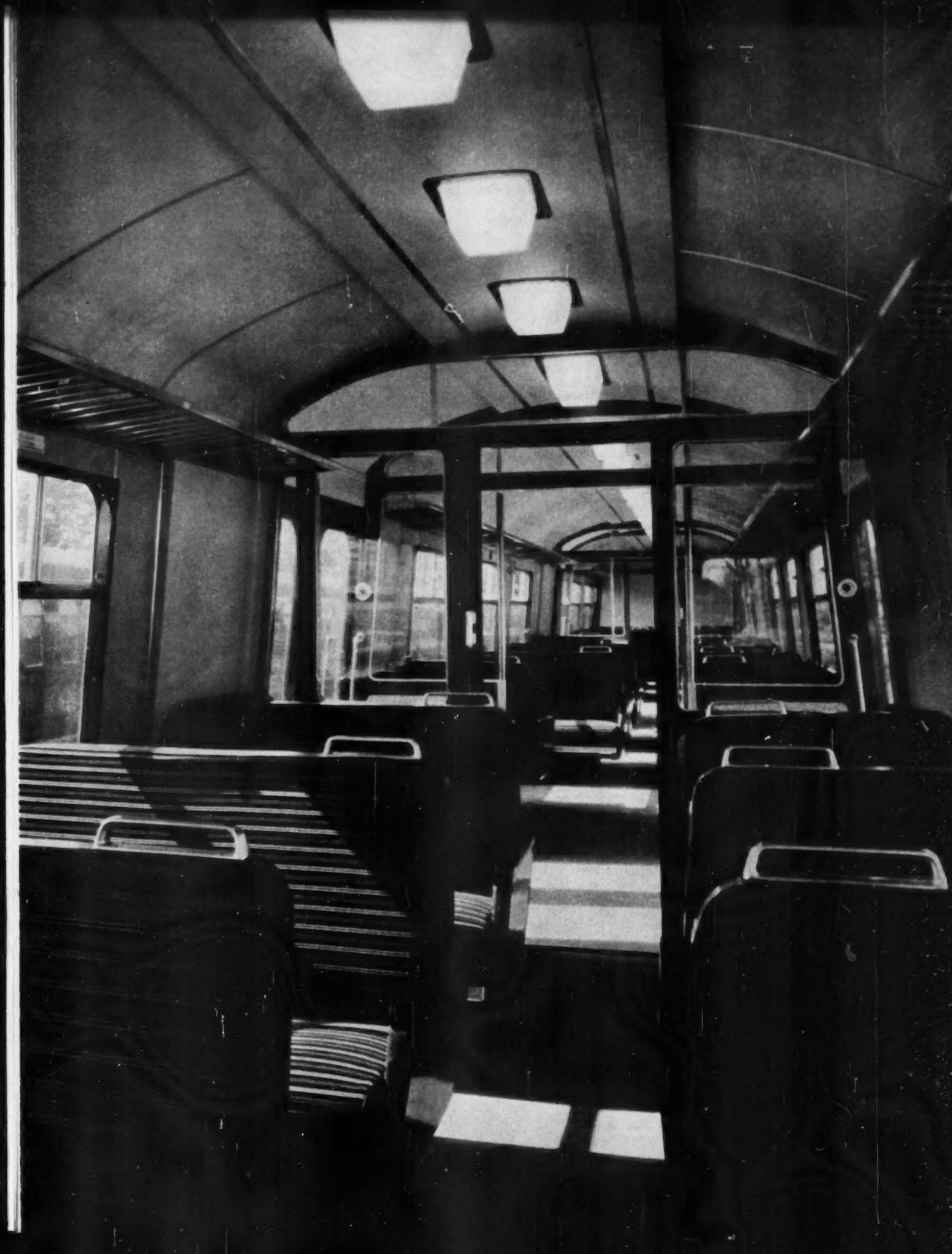
RIGHT A general view of the interior of the new train for the Glasgow electrified railways, a full description of which begins on page 40. This photograph and all other pictures of the new train are by Gordon McLeish and Associates.

The Editor of DESIGN has, I feel, chosen a good moment for giving his readers some account of the design activities of the British Transport Commission, and I readily avail myself of the opportunity he has offered me to say a few introductory words.

It is now just over three years since the commission decided to introduce a new policy for improved aesthetic and amenity design. The way in which that kind of policy can be best implemented must, of course, depend very much on the size and complexity of the business. The commission is a very large organisation employing over 800,000 people, and it knew the job was not going to be easy. It could have set up a special design department. It could have called in a high-powered consultant from outside. What it finally did was to form a small high level panel on which two members of the commission, with some senior officers, serve alongside the present chairman and director of the CoID.

The panel gives advice to the commission and to its various boards and managements. It also controls a small staff which organises the work of a group of consultant designers. But its main job is to influence people, and by that I mean people at all levels, from the chairman of a board down to the head draughtsman in an engineering works. The panel's aim is to do for the commission's undertaking what the Design and Industries Association started to do for the country 44 years ago: to permeate it with a sense of the importance of first class design and a firm intention to set about procuring it.

Inevitably, the articles we are going to see will be much concerned with railway design. After all, the railways form a very large part indeed of the commission's business, and their re-equipment forms an even larger part of the commission's general programme for the renewal of assets. I believe the articles will show that the Design Panel is making its mark on this great renewal plan. Let us not forget, however, that in this matter the panel is still at the beginning of what is clearly going to be a long job. The modernisation programme was already well advanced when it was set up. After 40 years of poverty and neglect, the railways were driving themselves furiously to exploit the



great opportunity that had suddenly come to them. It was not an easy time for the panel to start work. Its biggest problem has been to try to catch up with this great surge of building and manufacturing activity which had been steadily gathering momentum. On the whole, the Design Panel has, I think, done better than most of us dared to hope. Nevertheless, it will take some time for the full impact of its work to be clearly seen. That it will be seen is certain. Every day it is meeting with more understanding and greater willingness to co-operate; indeed some of the more sanguine among us are already looking forward to a time when its work will have been so well done that its existence will no longer be necessary.

T H Summerson

GLASGOW SUBURBAN RAILWAY

ALEC DAVIS

It is a great pity that most of British Railways' critics are unlikely to do most of their travelling, next summer, on the Scottish Region's Glasgow suburban lines. Were they to do so, they would travel in new electric trains which break away in many respects, and for the better, from established BR practice.

These trains *look* different because they are painted in bright blue, lined with black and yellow. They *are* different, technically, because they use alternating current at the national grid frequency of 50 cycles per second; each train transforms this current to DC, so doing away with the need for long cables to supply numerous lineside substations.

But the most significant difference, in the present context, is that these are the first complete new trains to come under the influence of the British Transport Commission's Design Panel. The panel, set up in October 1956, has already tackled the amenity and aesthetic design of much transport equipment, from litter bins to locomotives, teacups to ships: this was its first opportunity to collaborate from the start with the engineering designers on a completely new project.

When the electrification of Glasgow suburban lines was first planned, James Ness, general manager of the Scottish Region of British Railways, was determined that the new trains should not only be of advanced technical design but should offer high standards of comfort, convenience and pleasure in travelling. 'Pleasure' is not too strong a word, for there are fine views over the Clyde valley from some of the lines, and one of the few hard-and-fast conditions in Mr Ness's brief to the designers was that front and rear coaches should be, in effect, observation cars, giving the passengers the best possible view up or down the line.

For the first time for any train in this country, a full-size wooden mock-up was built and fully equipped. As a result, it was possible for the many railway officials concerned, and for other interested parties, to see new ideas in three-dimensional form, and to express opinions on them at a stage when those opinions could still have some effect (it was also possible to fix a time limit for this stage instead of allowing it to upset the planned programme of development and construction).

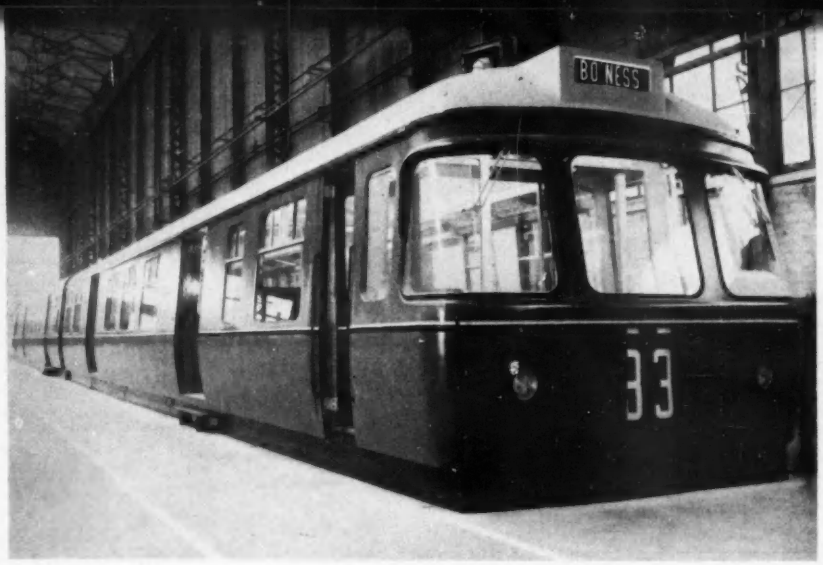
The coaches are basically of the open saloon type, but there is one small saloon at each end that is shut off from the main saloon by a partition and sliding door.

Glasgow suburban lines can accommodate trains of an overall width of 9 ft 3 inches as against 9 ft on British Railways generally. The sides of the new coaches have a pronounced tumblehome, and the maximum permitted width occurs at seat level, enabling the designers to make the seats as wide as possible.

It was found necessary to use in the new trains some mechanical and electrical components which are of unsatisfactory appearance, though no doubt well-tried functionally; and other stock items, though not hallowed by time, were adopted in the interests of standardisation. The driver's controls, for example, are standard handles as used on other new electric trains. Their arrangement, too, is conventional – but the industrial designers were able to modify the design of the instrument panel (in front of the driver and between his main hand controls) by sloping it upward at the front, thus reducing reflection on the instrument dials from the glass of the windscreen.

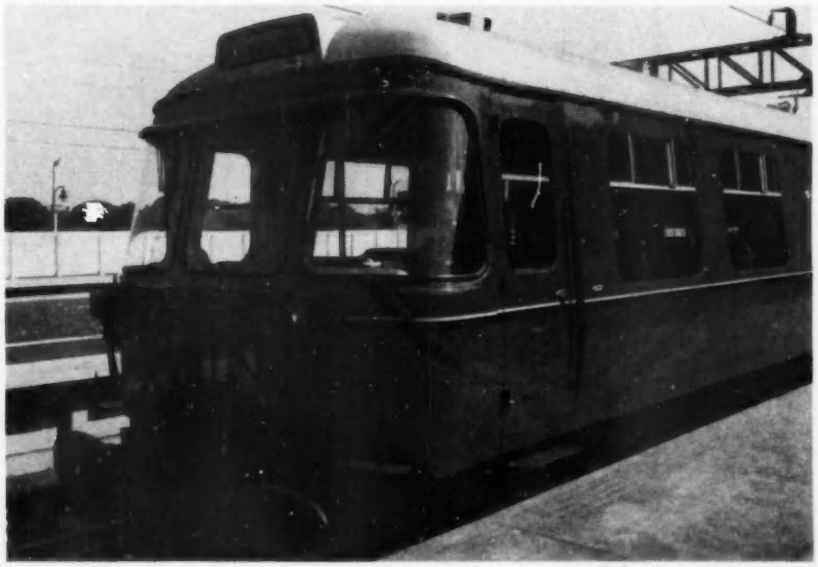
Not all details of the design of the new trains will please everyone, but they are so far in advance of the general run of suburban trains that main-line passengers may at times feel slightly jealous of Clydeside commuters. The interest which the Glasgow suburban stock has aroused throughout British Railways augurs a busy future for the Design Panel: it could well be employed in improving the design of boat trains, which give so many overseas visitors their first impression of this country.

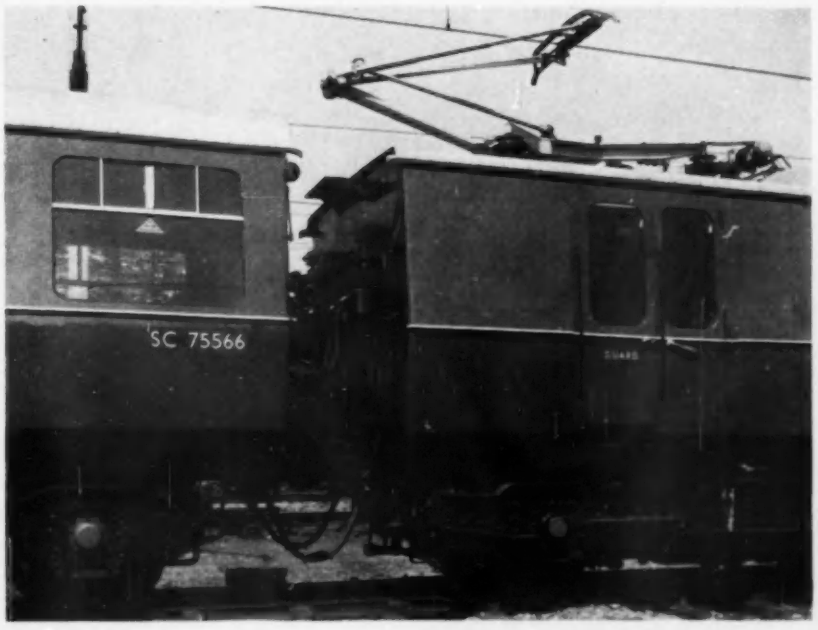
Creating conditions in which good work can be done is hardly less important than doing good work. In this instance the conditions included clear briefing and the



The designers' dream of clean frontal appearance – as seen in the mock-up LEFT – was shattered by the necessity of including various components, of standard design, which must be easily accessible for operational purposes, LEFT BELOW. Even so, the wrap-round windows of the driver's cab give a noticeably new line to the ends of the train. Their adoption called for consultations between the designers and many interested parties including representatives of the drivers – who were wholeheartedly in favour. The projecting 'eyebrow', BELOW, houses part of the windscreen wiper mechanism; visually it helps to link together the three panels into which the screen is divided.

BOTTOM LEFT The trains are designed as three-coach multiple sets, with the motor coach in the middle. The roof line is lowered above the guard's compartment, where the pantograph is installed. Lettering, in Gill Sans, follows British Railways' standard style – derived from the London & North Eastern Railway's type standardisation of the late 'twenties.





Credits

British Transport Commission:

The mechanical engineering design was carried out under the general direction of J. F. Harrison, chief mechanical engineer of BR central staff (BTC); the chief mechanical and electrical engineer, Eastern Region, being responsible for the detailed supervision and liaison with the contractors. The design of the electrical equipment was carried out directly by S. B. Warder, chief electrical engineer with his contractors, Metropolitan-Vickers Electrical Co Ltd.

The design officer, BTC, George Williams, represented the Design Panel, of which Christian Barman is executive member.

Industrial design consultants:

Wilkes & Ashmore, for the general external finish and detailing of front end; and for the design of the seats and driver's cab

Misha Black, of DRU, with John Diamond, of Diamond, Hodgkinson & Partners, for interior detailing and finishes.

F. H. K. Henrion for station signs and symbol, and advice on exterior colour scheme of the trains.

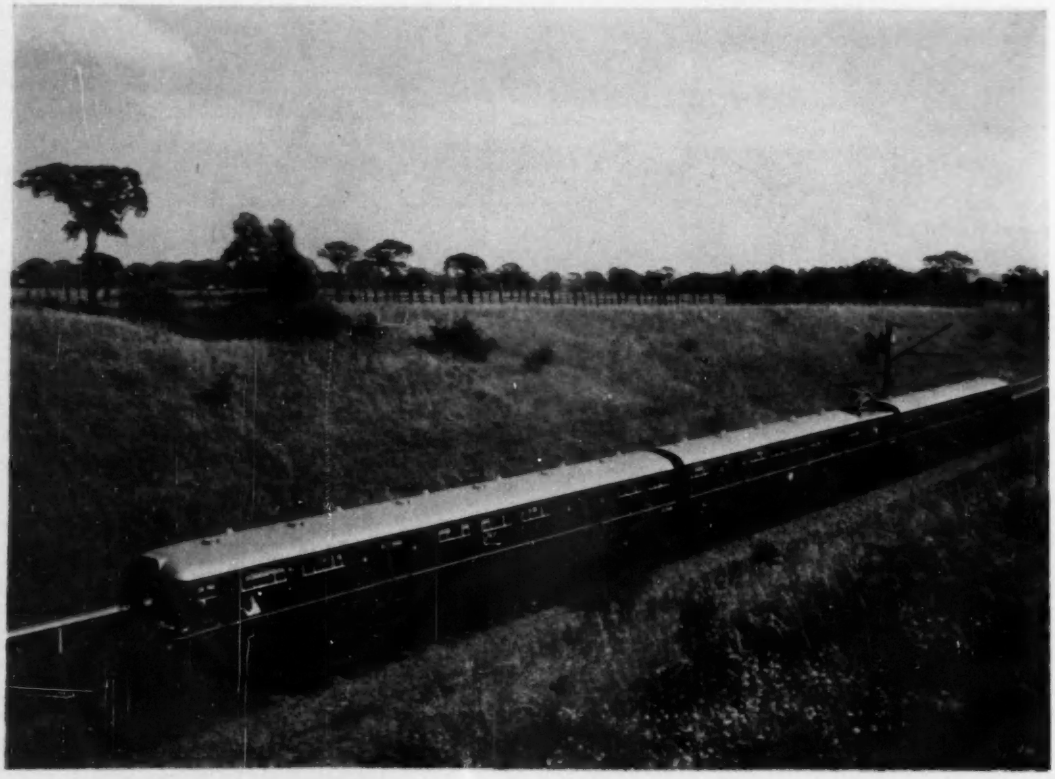
All in association with the Pressed Steel Company Ltd (chief engineer [Linwood Factory] J. A. Simms) and Metropolitan-Vickers Electrical Co Ltd.

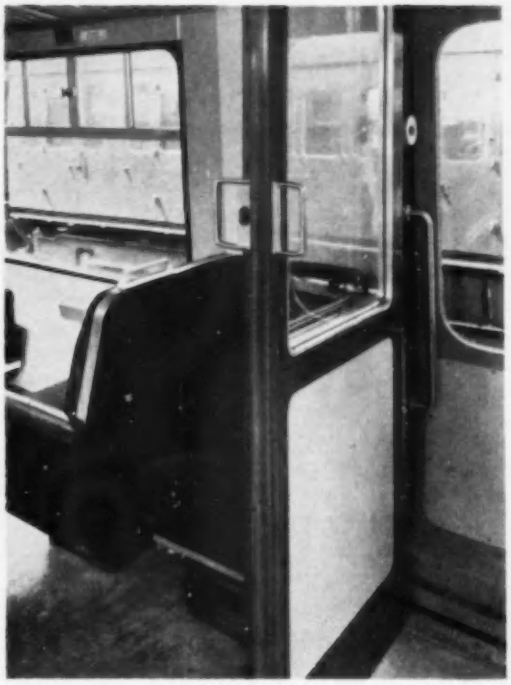
ready co-operation which the industrial designers received from the management of the Scottish Region, and from the engineers of British Railways and of the Pressed Steel Co Ltd, at whose works near Paisley the trains are being built.

A sensible and successful accompaniment to the design of the trains is the design of a new symbol and experimental station signs for the lines on which they will run – which have thus been given a house style. The symbol consists of two overlapping horizontal V's in blue and yellow on black; the black and yellow of the coaches' lining and lettering are the colours also of the station name signs. It is to be hoped that it will not be long before the ugly standard station signs common throughout British Railways are also reconsidered.

Seats were designed by Wilkes & Ashmore in conjunction with the Pressed Steel Co Ltd; structurally, they are a combination of welded steel tubing and sheet metal pressings. The wide flat area behind the seat cushion facilitates cleaning. There are two patterns of moquette by John Holdsworth & Co Ltd, each in two colourways, in every train. Seat ends, up to the armrest, are covered with black laminated plastics.

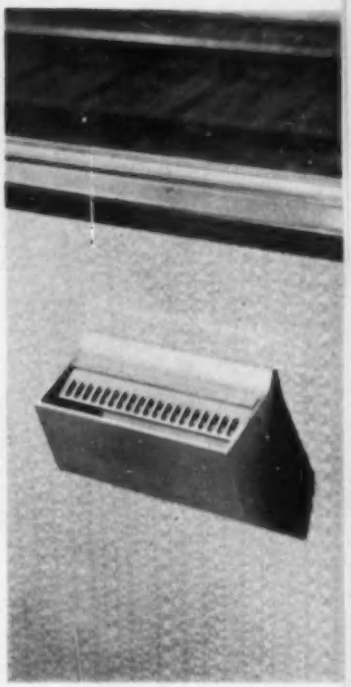
The bright blue of the new Glasgow suburban electric trains is a welcome breakaway from the dull colours of much British Railways' equipment; and it is linked with an earlier tradition, because the same kind of blue was used for the locomotives of the old Caledonian Railway.



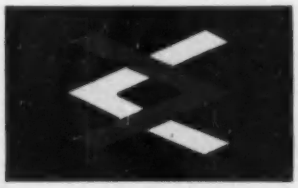


For standing passengers, the design of grab handles is important. The open type finally adopted, ABOVE, is better both functionally and aesthetically than solid handles tried out in the mock-up. This type is more in keeping with the handles – also of satin-finished aluminium alloy – fitted on sliding partition doors and those fitted in the main entrances. An unusual feature in British Railways' rolling stock is the use of sliding doors which are operated by the guard. They are particularly valuable in ensuring rapid filling and emptying of the train.

Alternative types of luggage rack were tried in the mock-up. Stamped-out sheet metal panels, TOP, though more eye-catching, were rejected in favour of straight bars, ABOVE, because these make it easier for the passenger to move small objects forward from the back of the rack. Aluminium alloy brackets supporting the racks, are rubber mounted to avoid rattle.



Ashtrays are big enough to suit cigarette or pipe smokers and to be easily used when the train is moving. The background in this picture shows one of the many plain and patterned panels by Formica Ltd used in the trains.



ABOVE The new symbol for the Glasgow electrified lines using two overlapping V's

LEFT Present station sign and a new experimental sign which is being tested. The ugly British Railways' sausage-shaped station sign has been abandoned in this scheme and the new rectangular sign is smarter and more compact. Experience will show if the slightly condensed upper and lower case lettering of the new sign is more or less legible at acute angles than the old B R lettering. A more satisfactory solution might have been to place the signs at an angle to the track. All the designs, by F. H. K. Henrion, are moulded in self coloured glass fibre – a technique which may prove to be a serious rival to metal signs in other contexts. They were made by E. M. Cromwell & Co Ltd.

Opportunities in Scotland

MALCOLM J. BROOKES

Sir Charles Connell, chairman of the CoID Scottish Committee with Lord Polwarth, *right*, at the opening of the *All Scottish* exhibition.

All Scottish Exhibition

A few years ago it would have been difficult to arrange a sizeable exhibition of articles of Scottish make which had had as much attention paid to their appearance as to other factors, such as durability or ease of operation. However, last September the Scottish Design Centre in Glasgow presented for the first time an *All Scottish* display of articles made in Scotland, totalling over 200 exhibits, showing that Scotland besides having a reputation for high quality and craftsmanship, is becoming design conscious.

The exhibition, opened by Lord Polwarth, chairman of executive, Scottish Council (Development and Industry), contained goods drawn from a wide range of categories. These included stoles and rugs, Scottish tweeds and some office machines (made in Scotland but designed elsewhere), together with heating appliances and furniture for the home, office and garden. Some of the exhibits had been seen previously at The Design Centre in London; in particular three articles which have received recent *Design Centre Awards* – the solid fuel *Queen-heater*, the *Carlton* lavatory basin, and one of the *Artkurl* Wilton broadloom carpets. One section was devoted to graphic design, a category not yet in 'Design Index', and specimens of print from firms such as William Collins, Sons & Co Ltd and The Munro Press were included.

In addition there was a special display of textiles designed by Scottish industrial designers but made by English firms such as Edinburgh Weavers. While this was only a small display it indicated the considerable talents of Scottish designers who would welcome more opportunities to work with English firms. At present such opportunities are scarce. Altogether, the exhibition advantageously showed the effort which is being made to stimulate good modern design in Scotland while underlining the fact that not a few articles, though made in Scotland, originated outside that country. At the same time noticeable absences in such goods as cutlery, light fittings and radios indicate opportunities still remaining for manufacturers in that part of Britain.

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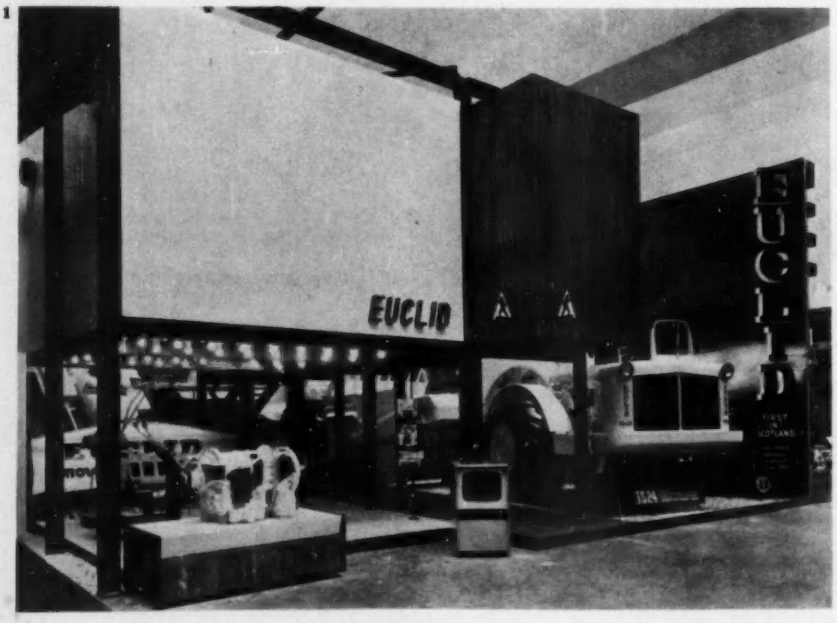

Scottish Industries Exhibition

While the exhibition at the Scottish Design Centre indicated a high standard of design in some fields, there was a different tale to tell at the recent *Scottish Industries Exhibition*. Manufacturers who were showing their goods or acclaiming their achievements fell into two categories – those enthusiasts who were fully aware that this was Britain's only large trade show this year and those greatly lacking in enthusiasm. While doubtless there were many Scottish firms in the former category, nevertheless international firms who had subsidiaries in Scotland were characterised by a more lively interest. A brief review of Scotland's industrial development may help to put this scene in perspective.

Since 1931, when the industrial recession reached a peak in Scotland, there has been a pressing need to expand industry and the Scottish Council (Development and Industry) has played a large part in meeting this demand. Development was necessarily stopped by the war, but after 1945 industry again advanced rapidly. However the industrial growth took on a new form. Many large firms from the United States have formed subsidiary manufacturing companies in Scotland. Rem-

ington Rand Ltd, IBM United Kingdom Ltd, Caterpillar Tractor Co Ltd and Euclid (Gt Britain) Ltd are a few examples, while British Olivetti Ltd of Glasgow has its roots in Italy. Others, like Ferranti Ltd or The Glacier Metal Co Ltd come from south of the Border.

That such concerns are able to flourish in Scotland, indicates there has been no loss of the engineering skills for which the Scots are well known; and that there is no lack of manpower in the country. In fact there is still a superabundance, and unemployment is higher than in England.

At the other extreme a few major indigenous industries seem either to have disappeared (such as the once flourishing car industry) or to have overlooked opportunities for expansion in the last 10 years. Shipbuilding activities, for example, have not progressed as rapidly as in other countries. Such occurrences cannot be blamed merely upon poor labour relations, otherwise Scotland would hold little attraction for the many external industries which are now entering the country.

With this in mind, perhaps the third *Scottish Industries Exhibition* will mark a turning point in Scotland's industrial development. It was the general opinion that the standard of exhibition design was higher than that of the second, held in 1954 (DESIGN 71/17–24). Compared with similar exhibitions seen in London in the last few years, the standard of display was, perhaps, not quite as high; however, exhibition budgets may not have been on such a lavish scale. One overbearing disappointment was in the shortage of new products to be found. Possibly this may be allied to the scarcity of flourishing indigenous enterprises.

Among the few new consumer goods were some from H. Morris and Co Ltd, the furniture manufacturer, who was displaying new lines; and of the engineering exhibits Bone, Connell and Baxters Ltd, constructional engineers, introduced an interesting crane cabin with all electric controls and having panoramic vision. But 17 exhibits on the DSIR stand showed that it is not possible to generalise on Scotland's lag in scientific research. These exhibits ranged from special metals developed by Colvilles Ltd to a weaving process originated by Donbros Ltd in which spinning has been eliminated.

While the collective electrical exhibit formed by eight firms on one stand looked somewhat muddled, there were some examples of new designs to be found there. This stand reiterated the fact that in any competitive field, such as electrical or electronic engineering, only by progressive action will firms prosper. M. and C. Switchgear Ltd, for instance, displayed a group control starter board constructed on a unit system, and the electronics division of Bruce Peebles and Co Ltd introduced a range of electronic equipment from which it is possible to build an inexpensive general purpose computer.

But apart from such specialised scientific devices, many Scottish firms showed a lack of initiative, being content to sell their little changed products year after year. It is now to be hoped that some industries will become conscious of their slow development and have much more to exhibit at the next *Scottish Industries Exhibition*, five years hence.

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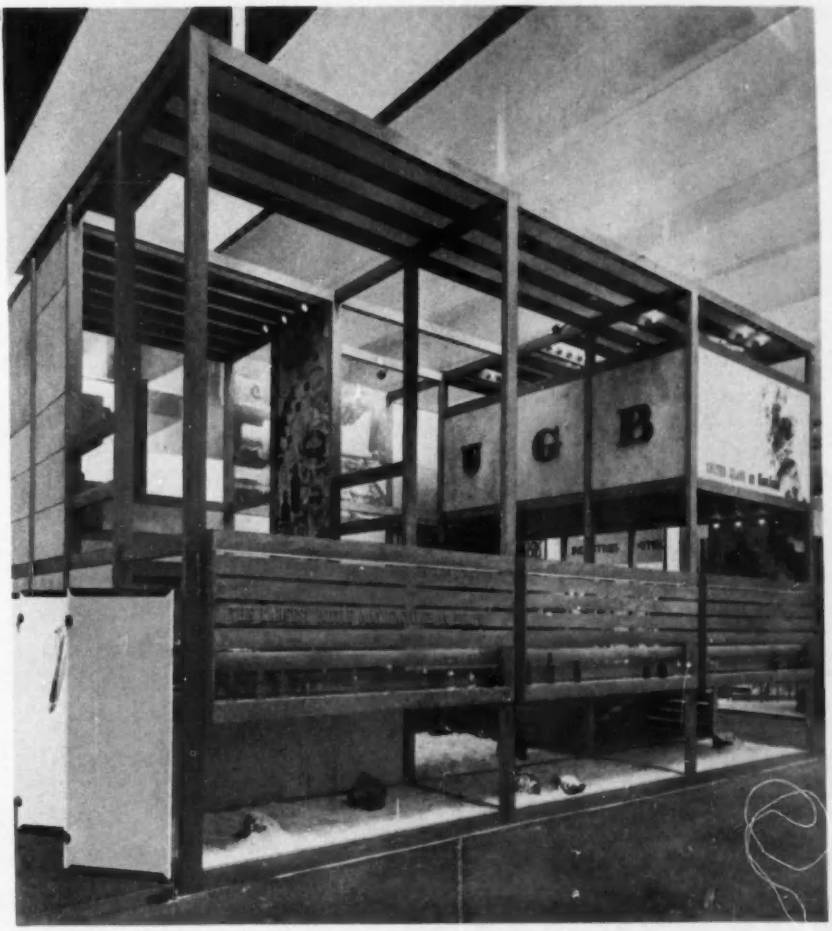

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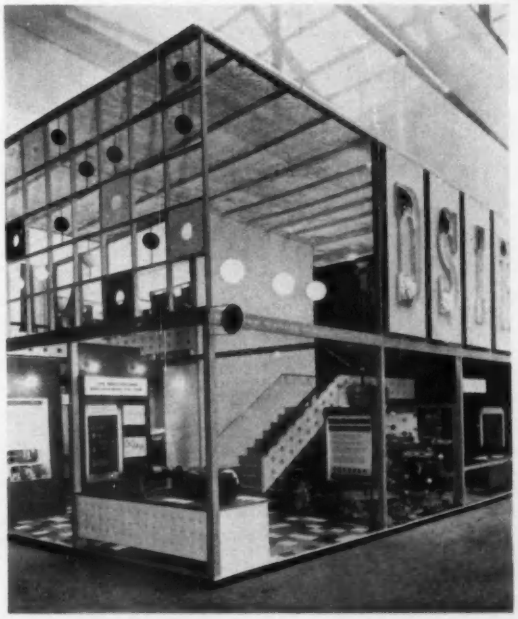

Three of the stands at the recent *Scottish Industries Exhibition*.

1 DESIGNER *Michael Laird.* EXHIBITOR *Euclid (Gt Britain) Ltd.*

2 DESIGNER *Peter Womersley.* EXHIBITOR *United Glass Ltd.*

3 DESIGNER *Ted Allan of Central Office o Information.* EXHIBITOR *Department of Scientific and Industrial Research.*

Review of current design

A selection of items recently accepted for 'Design Index', the CoID's photographic and sample record of current well designed British goods. 'Design Index' forms an essential part of The Design Centre, 28 Haymarket, SW1, which is open on weekdays from 9.30 am – 5.30 pm, and on each Wednesday and Thursday until 7 pm.

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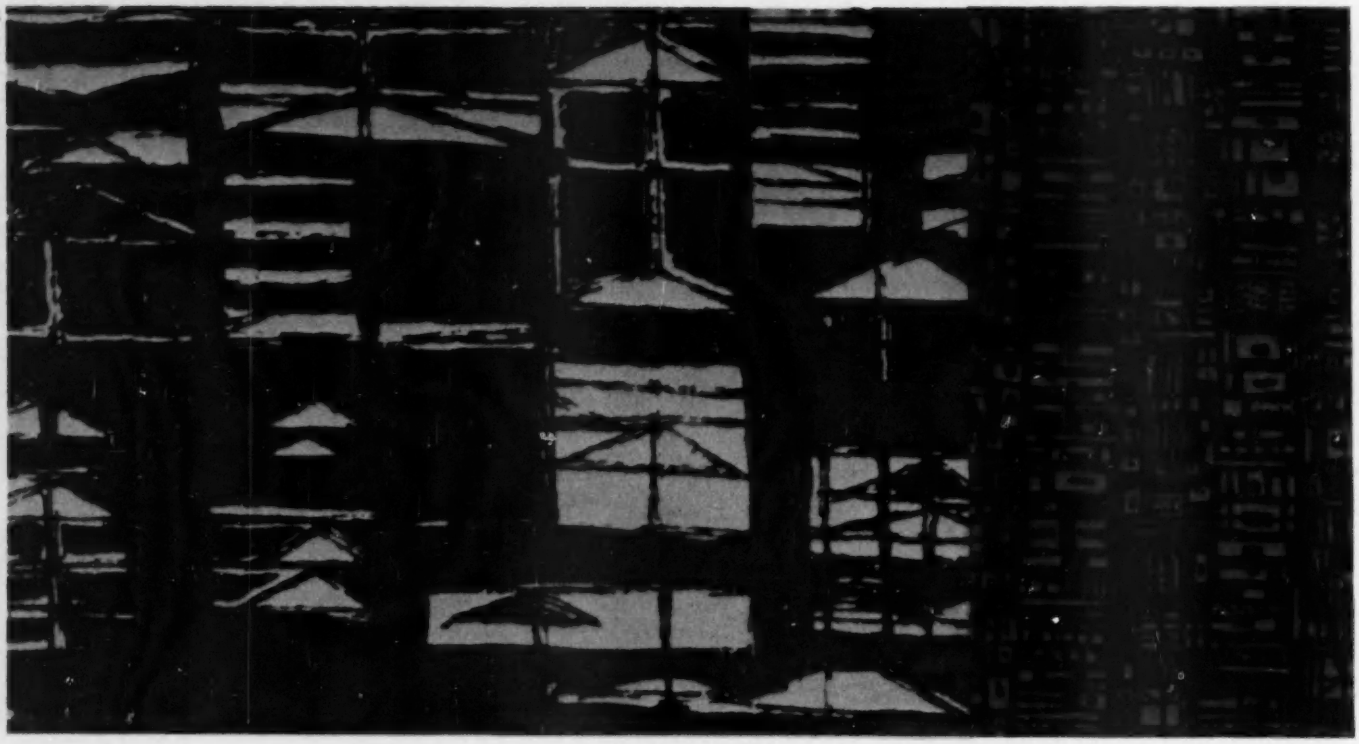

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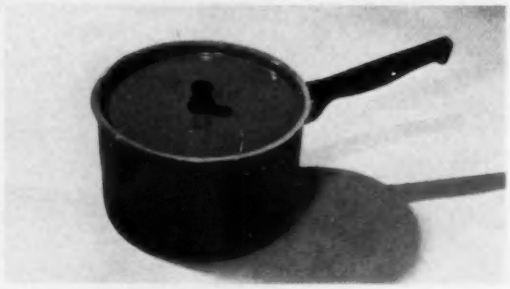

3

1 Warerite patterns for wall panels or use on furniture. *Left, Manhattan* available in a wide range of background colours. *Right, Metropolis* available in various colour schemes. DESIGNER *Jacqueline Groag*. MAKER *Bakelite Ltd. 4s per sq ft. Patterns illustrated same size.*

2 *Veristocrat* stewpan in heavy gauge steel, exterior vitreous enamelled blue, red, green or yellow. Moulded black handles screwed to a spigot welded to pan body. Capacities from two to six pints. DESIGNERS *Berkeley Associates*. MAKER *Edward Curran Engineering Ltd. £1 12s 5d (two pint) – £2 0s 6d (six pint).*

3 Steel office desk (model *MHDP 6030 AB*), synthetic stove-enamelled light grey with black top. Treated for rust prevention. Height 30½ inches; depth 30 inches; width 60 inches. MAKER *Milner Steel Equipment Division, Hall Engineering Ltd. £26 8s 2d.*

4 Trainer pot made of polythene in blue, pink, lemon or natural. Moulded-in handle and splash guard. Height 3¼ inches; diameter (top) 9 inches. DESIGNERS *M. O. Rowlands (pot) and D. Plumb (pack).* MAKER *Ekco Plastics Ltd. 7s 6d.*

5 Cast iron oval casserole and entrée dish (type *370*), with acid-resistant vitreous enamel finish in blue, dark or pastel green, or charcoal. Cast iron covers finished yellow or charcoal. Three and five pint sizes of casserole available. Three pint as shown: height 4¼ inches overall; width 7¼ inches; length 10¼ inches; weight 6¼ lb. DESIGNERS *John and Sylvia Reid.* MAKER *Isons & Co Ltd. From £1 19s 3d.*

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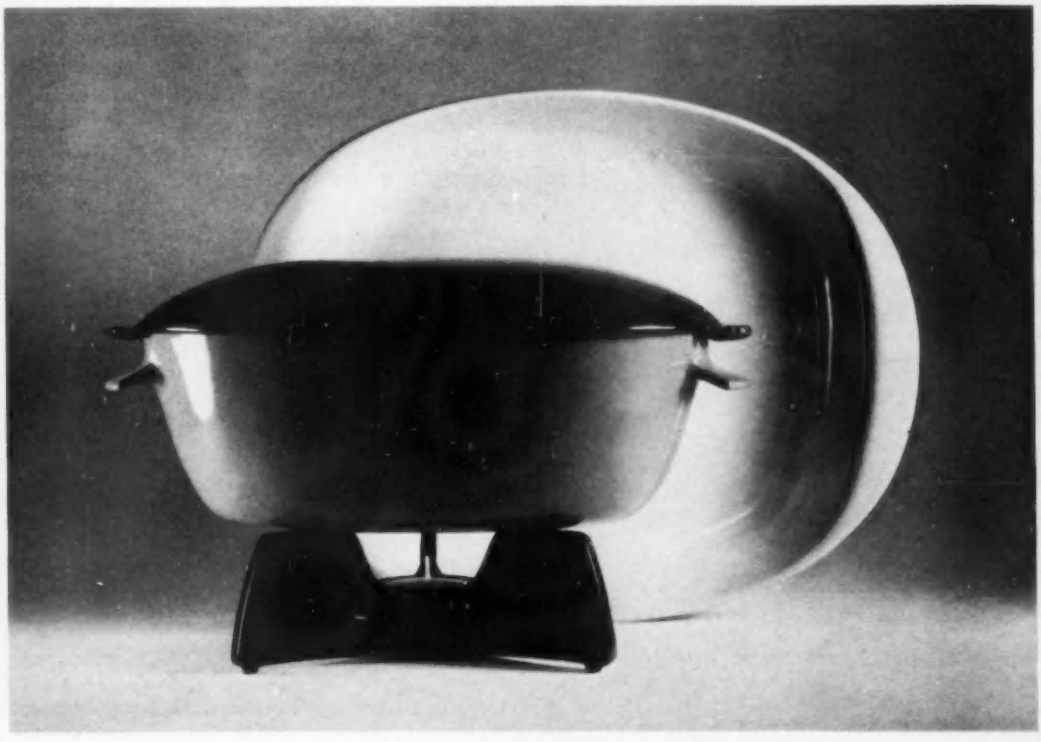

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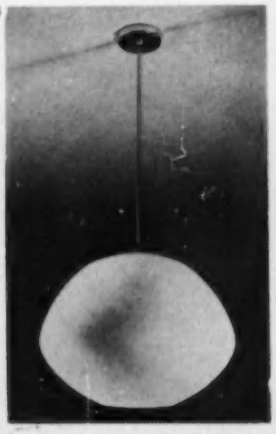

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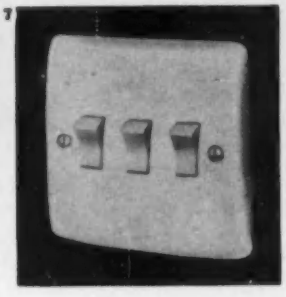

6 Pendant lighting fitting of silver anodised aluminium with satin white flashed opal glass. For use with 150 or 200-watt ES pearl lamp. Two models: *U53* height 2 ft 5 inches; diameter 1 ft 2 inches. *U54* height 2 ft 9 inches; diameter 1 ft 5½ inches. MAKER *Troughton and Young (Lighting) Ltd. £3 1s 9d (U53); £4 19s 9d (U54).*

7 Flush-fitting switches with rocker dolly movement. Made of Bakelite finished white or brown, switch components in brass. Fits plaster-depth box of wood or steel, or BS 1299 steel box. Up to three switches can be mounted on one plate. Ratings 5 amp 250 volt ac; single pole. MAKER *Contactum Ltd. From 2s 6d each.*

8 *Boston 300* pencil sharpener paint sprayed mushroom grey and black with a nickel finish. Three models available. Spring loaded grips on the *300* version accommodate any pencil size. DESIGNER *Theo Carter (both sharpener and pack).* MAKER *Joseph Gillott & Sons Ltd. From £1 to £1 8s.*

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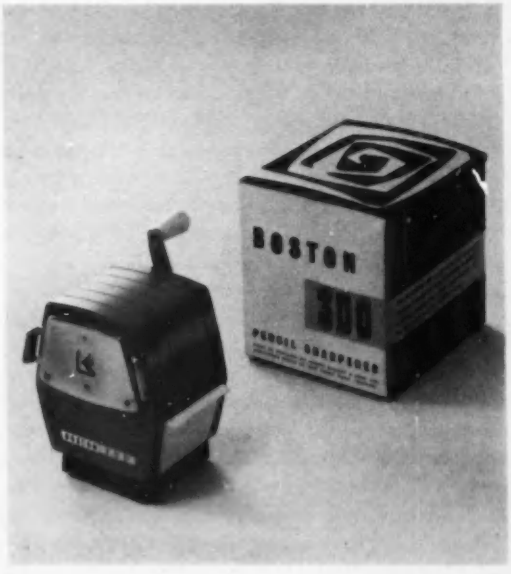

All retail prices quoted *are approximate and include purchase tax where applicable.*

Human factors for tractors

L. BRUCE ARCHER

Tractor seat and controls designed to ergonomic principles.

An interesting example of fitting the product to the user can be seen in the development of a new design for tractors undertaken at the National Institute of Agricultural Engineering, Silsoe, Bedfordshire. Tests originally intended to determine the ideal steering ratio revealed that ergonomic considerations relating to the design of the tractor seat and the layout of the controls played a bigger part in actual tractor performance than directly functional and mechanical details.

The story began with an investigation into the use of tractors for the exacting task of tilling closely spaced row crops in market gardening and horticulture. Accurate steering for long periods is a basic requirement for this class of work, and the investigation began with an attempt to discover why some tractors were easier to steer than others. After preliminary tests, the NIAE decided to construct its own test vehicle starting from basic principles. A preliminary investigation using two different steering and seating arrangements showed that, although operators had a remarkable capacity for adapting themselves to awkwardly arranged apparatus, they did nevertheless notice the effect of perceptual and postural strain and this, it was felt, would lead to impaired performance in long periods of work. The NIAE therefore approached the Climate and Working Efficiency Unit of the Medical Research Council, Oxford, for advice on the design of a comfortable seat, and attention was also given to the disposition of the controls.

There is, of course, a considerable body of knowledge now in existence concerning seating, posture, fatigue, perception and the arrangement of controls. Because it goes under such abused names as anthropometry, ergonomics and applied experimental psychology, many designers either disavow the subject, or think it far too advanced for application to their own rather ordinary design problems. Judging by the seating and control arrangements of commercial tractors, designers in this industry tend to fall into the latter category. Experiments conducted here and in Germany* show that bad design of seating and controls is responsible for making tractor driving harder than heavy manual labour in terms of energy output, nervous strain and fatigue.

Unorthodox ideas for working efficiency

The new NIAE tractor seat, based upon ergonomic principles, proves to be as comfortable and secure as a good upholstered chair, and may be expected to produce an appreciable reduction in fatigue and a correspondingly large increase in performance efficiency. The controls fall easily to hand, and the arm and foot pressures required for driving are well modulated. The basic shape of the tractor is designed to give the driver a clear view of implements mounted between the front wheels. However, the obstruction caused by the centrally placed lattice girder and the hydraulic tool lifting gear proved to be greater than had been anticipated, and in a new experimental tractor which the NIAE proposes to build, the main chassis will have widely spaced twin girders. The transmission will be to wheel-mounted hydraulic motors, and the tractor will be capable of being driven in either direction, so that implements may be towed or pushed, to suit circumstances. Since there are considerable operating advantages to be derived from arranging for a tractor to be capable of being driven on to and picking up an implement lying in a field or a barn, the proposed design will depart from the mid-mounting arrangement of the earlier model. Some interesting and unorthodox ideas in the design of steering and driving controls are also likely to be tried.

The idea of starting with the operator and working towards the function can produce dramatic improvements in working efficiency. However, mastering the ergonomic approach, and fitting it into its proper place alongside functional, production and aesthetic aspects may require some re-orientation on the part of older industrial designers and engineers. More proof from Silsoe, Oxford, and elsewhere will be required before anthropometry becomes commonplace.

*Lehmann, G., *Physiological Basis of Tractor Design, Ergonomics*, Vol 1, No 3, May 1958, £1 5s.

CENTRE LATHES

WILLIAM H. MAYALL
CoID Industrial Officer for Engineering

Traditional attitudes often handicap the introduction of good modern design for engineering products. The following article outlines the demands of world markets for centre lathes and stresses that greater convenience for the user should be integral with new designs.

Orders for machine tools have been increasing since the beginning of this year but the machine tool industry is by no means in the comfortable position it occupied in 1955. That was a peak year, with orders totalling some £100 million and delivery periods averaging 16 months. But in March this year the order book stood at £50 million and most deliveries could be made from stock.

In one sense the recession has helped the industry. Relieved of the backlog of orders and with a more refined labour force, firms can apply more energy to seeking new markets and establishing themselves in existing ones. This must be done in the face of constantly increasing competition from rival industries in Russia, Czechoslovakia, Germany, France and Italy; combined with this is a decrease in trade in some traditional markets such as India, where internal machine tool industries have now been established. The latter circumstance inevitably makes the sale of basic types of metal-working machinery more difficult. British manufacturers of such tools, and centre lathes occupy a prominent place in this category, will either have to produce more advanced equipment for more specialised markets, or, in other markets, establish such a distinction in their products by good modern design that they will appeal to both the advanced and the newly developing areas of the world.

Facing international competition

Companies making centre lathes are comparatively small and conscious of the traditional nature of their product. The largest factory of five visited recently employs a staff of 400 and claims to be the largest in the business. Companies of this size manufacture a range of machines, whereas the smaller firms, with 50 – 100 employees usually concentrate on one particular type. Of some 10 companies making small lathes, about half make general duty machines. The remainder make more specialised versions or precision lathes. It is common to find the management concerned directly with design, and with development often centring round an established model, large design staffs are not employed.

Conflicting reports of present marketing conditions exist, but those manufacturers approached were optimistic about improving their trade, though in general they admitted a fall in production since 1957. Their fortunes have largely followed the pattern of machine tool sales as a whole. Since home purchasers find the supply of general duty machines adequate and convenient for their purposes, there is little competition from overseas for this class of machine. But precision machine makers must withstand competition from Germany, Switzerland and America.

British general duty lathes find markets principally in Commonwealth countries. Exports range from 10 – 30 per cent of output, but as a result of efforts to exploit British machine tools in Germany, noticeable improvements have occurred by filling the gaps in a more specialised industry. In America, the higher cost of home produced machinery has assisted British exports to that country. However, it would be dangerous to overlook the circumstances of such successes by holding a complacent belief in the continued adequacy of machinery being sold in these highly developed regions.

Development inhibited

The main features of all centre lathes are virtually identical; a rigid bed with tailstock at one end and headstock at the other. The bed carries slides for both the tailstock and the traversing saddle which carries the cutting tool. Speed controls for the work and gear controls for mechanically traversing the tool are located at the headstock end. Though some exceptions in form are illustrated in this review, centre lathes have a similarity in their main controls.

Here may be the great difficulty in lathe development. Many engineers begin their training on lathes and so come to accept their peculiarities. Where such features are inconvenient, overcoming them is treated as part of the mystique of engineering training, but in many cases there is no need for this attitude.

An outstanding example is in the type of indication used when moving the cutting tool into the work. Universally this is measured by rotating an engraved dial representing increments of movement, **2**. Thus the engineer is forced to read a finely divided scale on a reflecting metal surface, making mental calculations if several rotations are required and frequently having to check

on centre in machining but off-beam in design

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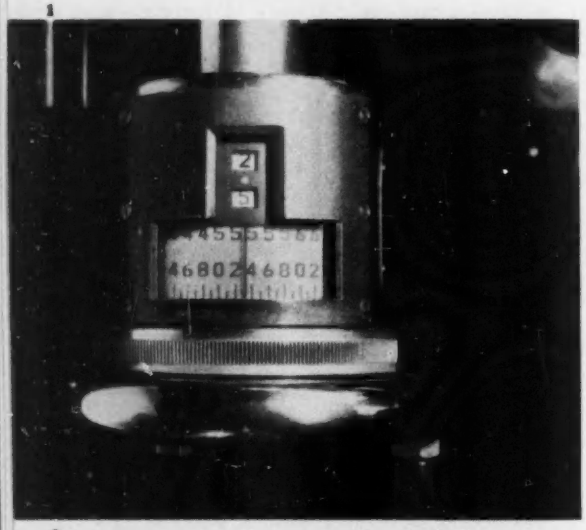

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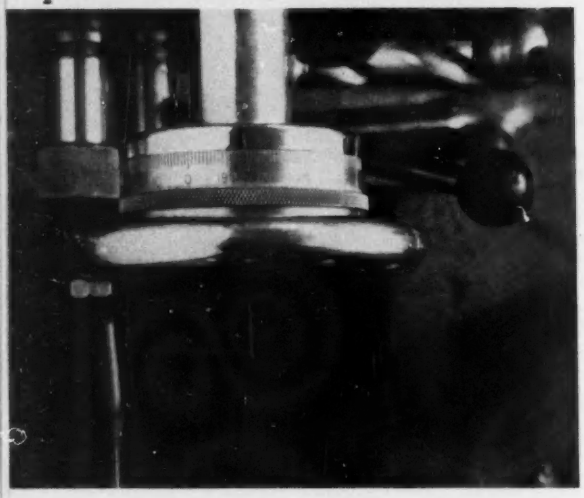

1 A continuous and direct numerical statement of diameter, 2·553 inches in this case, is provided by the *ENM* direct reading indicator which can replace the conventional cross-slide dial, **2**. On this older model the unit digit is in black and the decimals in red, but the convention has been reversed in later versions to make the decimal values, reading to thousandths of an inch on the bottom scale, more easily readable. The figures are designed for quick reading but unfortunately are marred in this unit by being too close to their frames, as can be seen in the illustration. The unit is, of course, applicable to other machine tools where linear measurement is needed. Developed by C. B. Gibbs at the Applied Psychology Research Unit, Cambridge. MAKER *English Numbering Machines Ltd.*

2 Reading a fine scale can be made more difficult when the scale is engraved on a specular surface. This scale is typical of those fitted to a lathe cross-slide. In addition the readings, in thousandths of an inch, require interpretation by the operator to relate them to the diameter of the material being turned. The Hardinge lathe, **12**, has improved scales with black markings on a white background, but the operational difficulty is still present.

his work with a further instrument. Yet a device described in DESIGN (66/17), over five years ago, greatly simplifies all such operations but still has not been incorporated in any machine. This device by English Numbering Machines Ltd, **2**, developed by C. B. Gibbs of the Applied Psychology Research Unit at Cambridge, supplies the operator with direct numerical information. Units can be built in on new machines, or attached to existing ones as desired, but typical of the consumer's approach to increased efficiency was the remark made to me: "We must have detailed work study reports on the system before involving ourselves in the extra expense". The expense involves £7 10s per unit.

Speed without error

Independent tests at the Michigan Research Institute showed that when using the ENM direct reading indicator, inexperienced operators reduced their quota of very faulty cuts by 94 per cent, and increased output by 42 per cent; while experienced operators reduced errors by 40 per cent and increased their output by 73 per cent. The device is applicable to other machine movements and can be easily fitted.

Here, then, is a technical development which also includes a visual improvement in the figures which are designed to reduce errors in quick reading. Application of such figures to thread cutting charts may be useful. A great many of these charts are too small and too cluttered, **7**; in addition, they are often badly located, requiring the operator to stoop to read them. Clear definition of controls both in identification and in grouping is again retarded by adherence to convention accepted through long use, and general improvements can only be noted when technical changes have occurred in control methods.

However, technical developments in the lathe itself do not always produce equivalent improvements in appearance. Essentially, the surroundings to the main working area should be as clear and as unassuming as possible, leaving the area clearly visible and convenient to the operator. Small lathes in particular suffer from a misapplied attention to design, which either produces bulbous curvatures or retains a congregation of box forms out of scale with the size of the machine and even distracting the eye from working and control regions. Many of these forms are the more unfortunate since they are developed in the mistaken belief of constituting good design. They are made rather for effect than for a purpose. Such an approach is often to be seen in tailstocks which appear to be designed according to current ideas of sculptural fashion. Similar aspects can be discerned in both general duty and precision machines, though

3 Clean appearance may not always be obtained by rounding off corners. The Kneller *Multipurpose* lathe emphasises a roundness of construction in the door handle fitments. Built with tubular slides instead of the conventional bed, it has a number of ingenious features for increasing its range of duties. MAKER *Kneller (Instruments & Tools) Ltd.*

4 The maker's pyramidal design concept gives this machine a clean control area and registers stability; although the bulkiness of the base is somewhat overemphasised. This *Chipmaster* 5-inch lathe is designed for mass production, the base and casings being aluminium die-castings. MAKER *The Colchester Lathe Co Ltd.*

5 Although this German machine is a specialised unit with a control system which need not be incorporated at the headstock end, it shows the advantages of an integrated form. The general casing does not distract attention from the working area. MAKER *Neue Magdeburger Werkzeugmaschinenfabrik GmbH.*

6 and **7** The *Kerry* 11-inch swing lathe is claimed to have a "rugged external appearance" and "closely grouped controls". However, the screwcutting information chart on a curved mounting is difficult to read. Few small lathes have legible charts conveniently mounted. MAKER *Kerry's (Gt Britain) Ltd.*

8 and **9** Opposing design approaches are displayed by these American and English machines which are identical in capacity. **8** English CVA (*IA*). MAKER *CVA Jigs Moulds and Tools Ltd.* **9** American *Monarch* (*EE*). MAKER *Monarch Machine Tool Co.*

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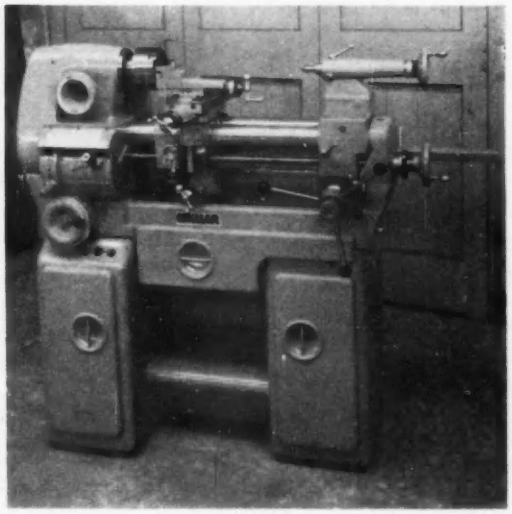

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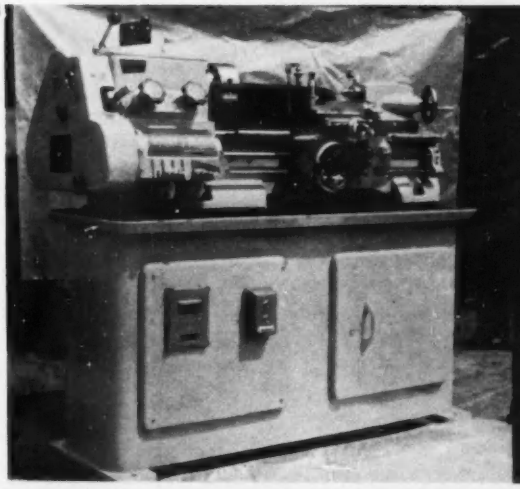

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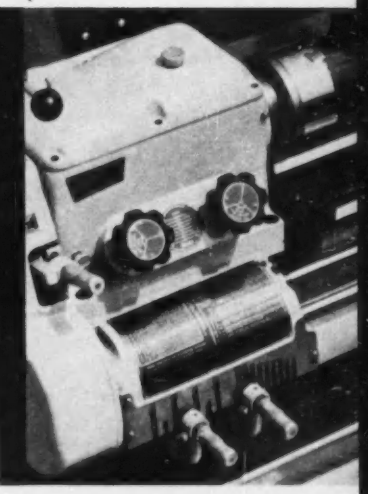

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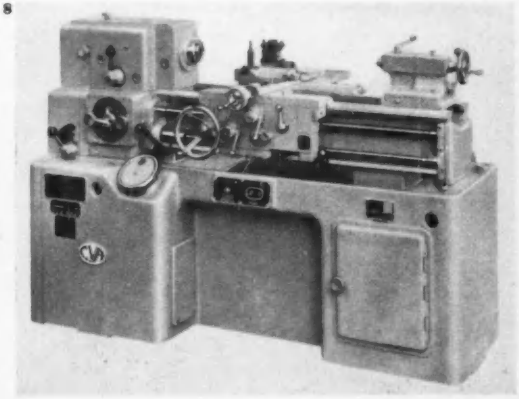

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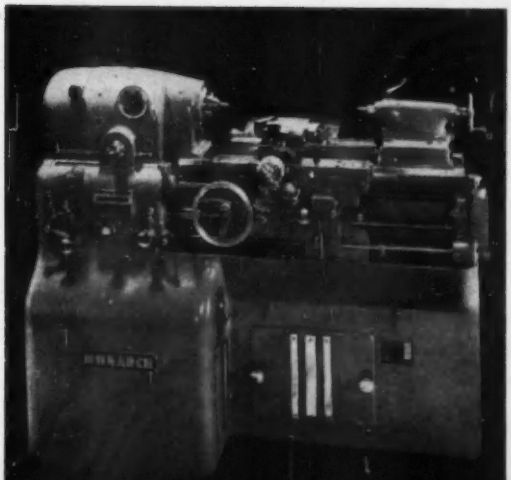

they are markedly different in price. A higher price does not guarantee an improved design standard; it may tend to perpetuate faults in a more luxurious manner.

Training designers

The technical development of lathes, as of other basic machine tools, has been largely based on empiricism and experience. Manchester College of Science and Technology recently opened a two-year course for advanced machine tool design. But the course, which started in October, has a limited entry and the majority of engineers must continue to acquire their knowledge of machine tool design from their work rather than from technical studies. Practically all design engineers in the industry have a background of technical school and workshop training. While the latter is essential, a tendency to accept established methods is difficult to avoid unless the trainee retains a fundamental approach to machine tool design from his academic studies.

A wider teaching of machine tool design principles appears essential in order to maintain technical progress, but this alone will not improve the appearance of machines. The most satisfactory approach is to incorporate industrial design courses in existing training schemes; such courses would then co-ordinate both appearance and technical aspects. The employment of an industrial designer can bring a fresh outlook to a design, but the industry will do itself a dis-service if it accepts him as a stylist. It is essential in machine tool development for industrial and engineering designers to work together as closely as possible, and the ultimate in collaboration is reached when they become one.

Improvements both in overall appearance and in performance will be obtained in this way, but it is unlikely that the more detailed aspects of control development can be fully applied by the designer. The industry must turn more to the ergonomist to develop this sphere.

11 "More efficient styling" is said to have been employed in the recent development of this well established *Churchill Cub* 6-inch lathe. The white controls carrying information are a particular improvement. MAKER *Churchill Redman Ltd.*

12 Additional fitments obscure the French *AC140* lathe, but its structural form expresses stability. The nameplate and symbol show that there is no national monopoly for the grotesque titling often found on machine tools. MAKER *E. Ernault Batignolles.*

13 Another German toolroom lathe. Convenient location of the screw-cutting chart is noteworthy but as a whole the lathe tends to lose co-ordination between base and working elements – always a danger in cabinet based machines. MAKER *Boley & Leinen.*

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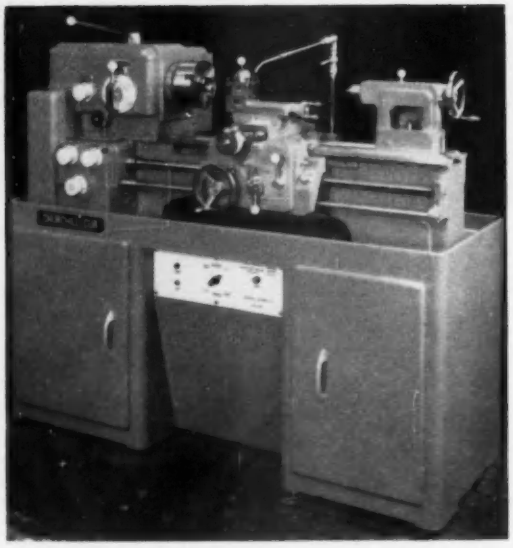

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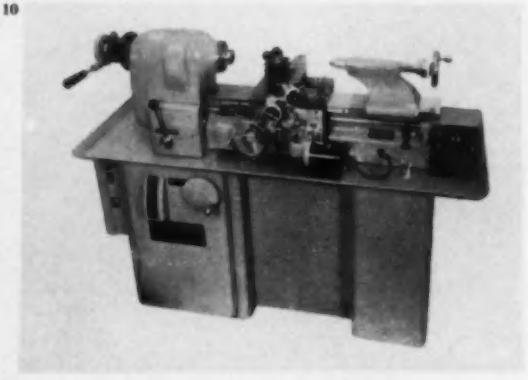

10 Black and white dials replace the normal reflective variety on the cross-slides of the *H L V* lathe, making some improvement over the type shown in **2**. The large tray may be too convenient for leaving tools and other equipment to mingle with swarf. This lathe is an American precision machine built in this country. MAKER *Hardinge Machine Tools Ltd.*

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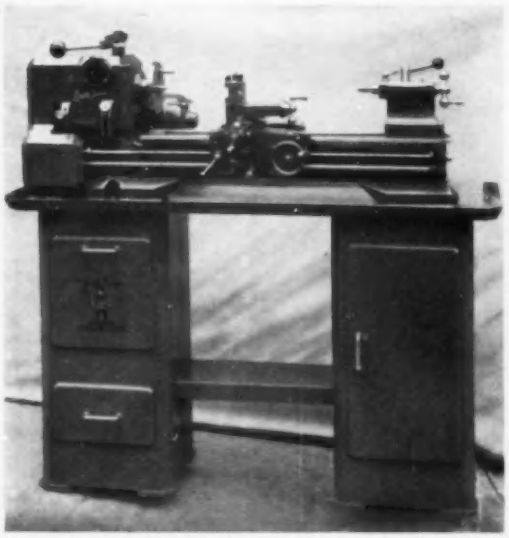

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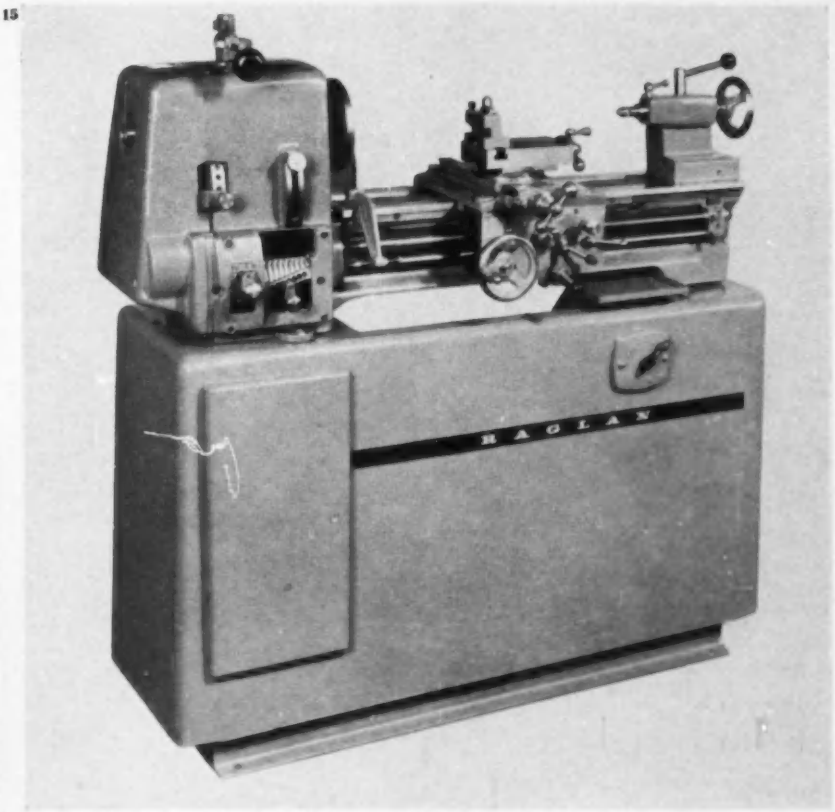

14 and **15** Built largely for training, the *Little John* lathe, **14**, acquired a good reputation in this sphere. Though a small machine, it incorporates all the principal features of the standard centre lathe. The redesigned model, **15**, which has been renamed *Raglan*. All inessential details are removed, to the extent of sacrificing the company's symbol. The tray under the bed has been omitted, minimising any distraction from the working section of the machine, an innovation in lathe design. DESIGNER (*Raglan*) *John Barnes*. MAKER *Raglan Engineering Co (1954) Ltd.*

Case History *Five-inch centre lathe.* MAKER *Raglan Engineering Co (1954) Ltd.*

Raglan Engineering is one of the smallest companies making lathes. It concentrates mainly on the educational market, with a good reputation both at home and abroad in this type. Its *Little John* lathe has become well known as a reliable small machine.

In 1956 the managing director, Bernard Wadkin, acting also as chief engineer, felt that the machine needed redesigning to compare with the improving appearance of Continental machinery. He wanted an industrial designer to undertake this work, and selected John Barnes of Allen-Bowden Ltd. Work began in 1956 and, though delayed, the firm persisted through the recession to produce the new machine now coming on the market. The result is, as was intended, a frank reshaping of outline and so it affords an interesting comparison with the earlier *Little John* machine.

A sidelight to the development has been that everyone in the firm has become a great deal more design conscious. The new *Raglan* lathe immediately showed the need for a related sales brochure, also designed by Mr Barnes, and it has inspired the design of a much smaller machine for use in preliminary technical education.

Though the chamfered forms employed in the *Little John* machine were at least consistent, the general effect, **14**, is clearly disturbing and moded; this reveals the dangers of employing a decorative rather than a constructive design approach. In addition the twin pedestals fail to give the impression of stability. By replacing these in the *Raglan*, **15**, with a single box form and refining the box with a fine upward taper, a far more stable effect is given and attained practically. This same cabinet also incorporates an unusual modification, for the swarf tray has been completely eliminated and the top edges of the cabinet rounded off so that the work area can be kept clean. Any accumulating swarf can quickly be swept into a trough set into the cabinet top.

While a clean overall shaping has been applied to the headstock and the relationship with the base maintained in an upward taper, its form suggests a submission to style rather than an attempt at integrating the components in a more efficient manner. The cabinet clearly displays improvements, incorporating a technical development in a satisfactory manner; the headstock, however, still has its drive motor and pulley mounted externally so that these, together with the speed control lever, appear as additions rather than integral components. This is most apparent from the rear view of the machine. No alteration to the main controls has been made, apart from repositioning the 'start' and 'reverse' switch. Here an opportunity to demonstrate a comparable advance in control development may have been missed; the slight re-location of the thread cutting chart for example, appears to be a retrograde step.

Nevertheless, there is a distinct overall improvement, particularly in clarifying the working area. Though the *Little John* and *Raglan* machines are equivalent in capacity, the *Raglan* gives the impression of robustness, reliability and accuracy; and these are the terms which all lathe manufacturers like to use about their products.

European trade **Office machinery**

Although this review of office machinery is included among our surveys of leading designs from European manufacturers, some of the examples illustrated are, in fact, American in origin. Of all the industries which have been covered in this series office machinery is certainly the most international. Barriers to trade that inhibit most industries seem to have little effect on this field, and most of the larger companies claim world wide distribution of their products. American, Italian, German, and Swedish designs are all competing on common ground to capture the rich rewards which stem from society's growing dependence on efficient office administration.

World distribution from central production sources is not satisfactory in the long run and many of the well known office equipment producers have now set up manufacturing and distributing companies in several countries. The American company, Remington Rand, for example, manufactures a wide range of equipment in Germany, France, Sweden, Denmark and Italy, as well as the UK and the USA. Two other American firms, Underwood and IBM, both have manufacturing plants in the UK, while Underwood also has a plant in Italy. Olivetti, in addition to its six plants in Italy, manufactures typewriters in Spain and the UK as well as in South America and South Africa.

In this race for expanding markets, most of the larger firms are combining their continual search to improve technical performances with a positive, though in some cases belated, attempt to upgrade the appearance of their products. At the recent *Business Efficiency Exhibition* at Olympia, the influence of the industrial designer was apparent particularly in a number of the new typewriters that were on show. This in itself is an encouraging development. The realisation, however, that nearly all these designs are foreign in origin and that they completely dominate the British market, is disturbing. Among all the well known makes of typewriters that are available in this country, only one, the Imperial, **1**, is completely British in design. Even more disturbing is the fact that the Imperial, whatever its technical qualities may be, makes a sad comparison with the clean lines and compact appearance of many new designs from abroad. That Britain's only major indigenous typewriter should look so clumsy and old fashioned can do little for her reputation in markets overseas.

Typewriters are probably the most common of all office machinery and are certainly more familiar to a greater number of people than such products as calculators, duplicators and voice recorders. The introduction of a typewriter that makes a major breakaway from the typical forms that have been evolving over a number of years is, therefore, of major significance. The new Olivetti *Diaspron* must be considered in this light. Olivetti, the largest European office machinery manufacturer, has long been considered a leader in this field of design, and the appearance of its equipment has been thought so right that a change could hardly be contemplated. Marcello Nizzoli's faceted style has been a talking point among designers since it first appeared a few months ago and for this reason we have asked Misha Black, one of Britain's most distinguished designers, to contribute his views. Mr Black's comments are published on page 58.

Other firms have sought different methods of creating a feeling of individuality in their products. The new IBM electric typewriter, previously shown in DESIGN 128/55, has attempted to introduce brighter colours to the normally drab office interior, and the Underwood machine, **2**, in common with the company's other new models, can supply a variety of interchangeable, coloured fascia panels.

Acceptance of industrial designers

In general, the new equipment which emanates from the USA is fairly clearly distinguished by a treatment of form which we have learned to associate with other 'designed' American products, and in fact most American companies use industrial designers as a matter of course. European design tends to be more modest with less emphasis on a dominating shape, and in some cases rather more on good detailing. Apart from Olivetti, the major exceptions to this are the Swedish firm of Atvidabergs and its associated company, Original-Odhner, which have developed a remarkably advanced design policy under the guidance of their consultant designers Count Sigvard Bernadotte and Acton Bjørn.

Because of the enormous diversity of office equipment that is available, this survey must inevitably place a special emphasis on typewriters. Not only does the typewriter in many cases form the basis on which a whole range of more complex accounting equipment can be built up, it also often acts as a guide to the design standard which can be expected in other products by the same company. In a market which is so firmly international in character, it also acts as a symbol of national prestige.

Italy's often exaggerated reputation for leadership in industrial design owes much to the single but widespread reputation of Olivetti. It is a pity that British designers and office equipment manufacturers have so far failed to produce an equally powerful symbol.

2

2 *USA. Touch-master* typewriter. Though designed in the USA, this machine is manufactured in Great Britain and shows the strong influence of the industrial designer. It is claimed to have the lightest and most responsive touch of any manual typewriter, and is available in a range of two-colour finishes. CONSULTANT DESIGNER *Raymond Spilman*. MAKER *Underwood Business Machines Ltd. From £68.*

3 *Sweden.* Facit *Plento* duplicator. A hand-operated spirit duplicating machine in which much attention has been paid to good appearance as well as mechanical operation. It is one example of several advanced designs from this manufacturer. CONSULTANT DESIGNERS *Count Sigvard Bernadotte and Acton Bjorn.* MAKER *AB Atvidabergs Industrier.*

1

1 *Great Britain.* Imperial *66* typewriter. This model is from the only range of typewriters both designed and made in Britain, and its appearance contrasts unfortunately with the other models illustrated in this article. The company has a reputation for good workmanship and reliability. MAKER *Imperial Typewriter Co Ltd. From £67 15s.*

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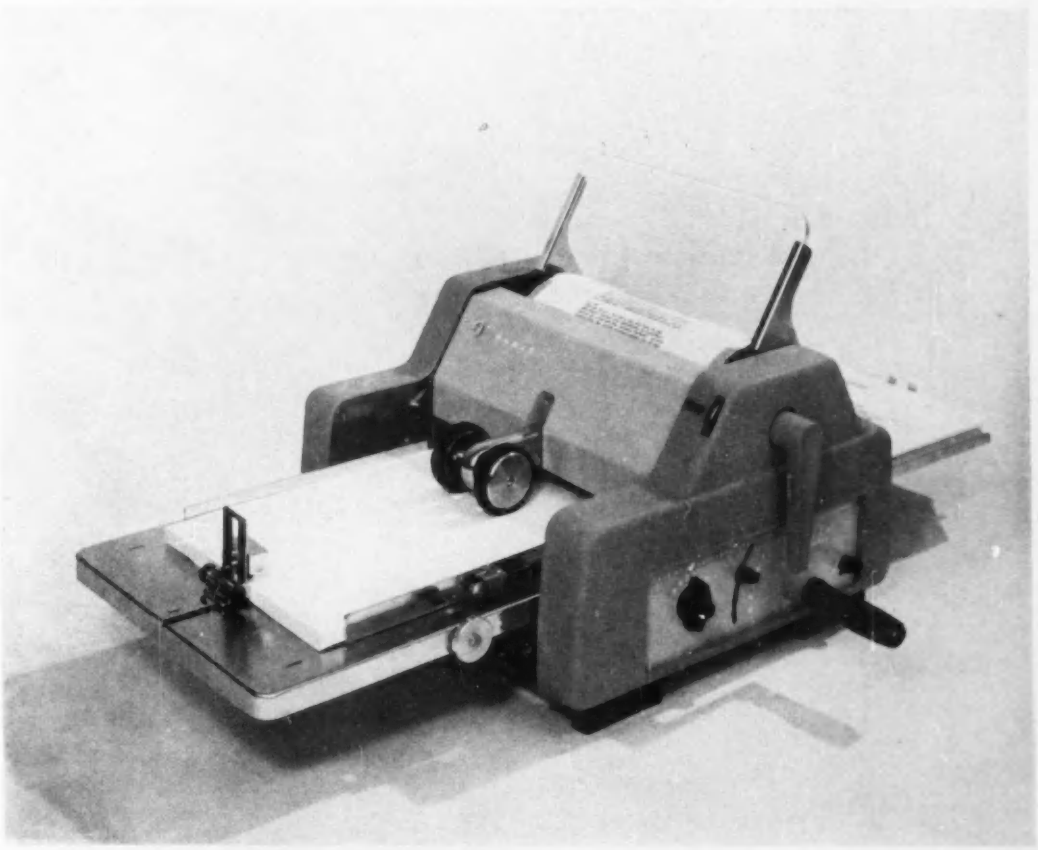

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continued

4 *Germany. Stenorette B* dictating machine. Rechargeable nickel-cadmium cells power the transistor circuits in this neat machine. It is said to be the cheapest on the German market. MAKER *GTA Grundig Electronic - Triumph - Adler Vertriebs GmbH.* BRITISH IMPORTER *Grundig (Great Britain) Ltd. £57 15s including microphone and cassettes.*

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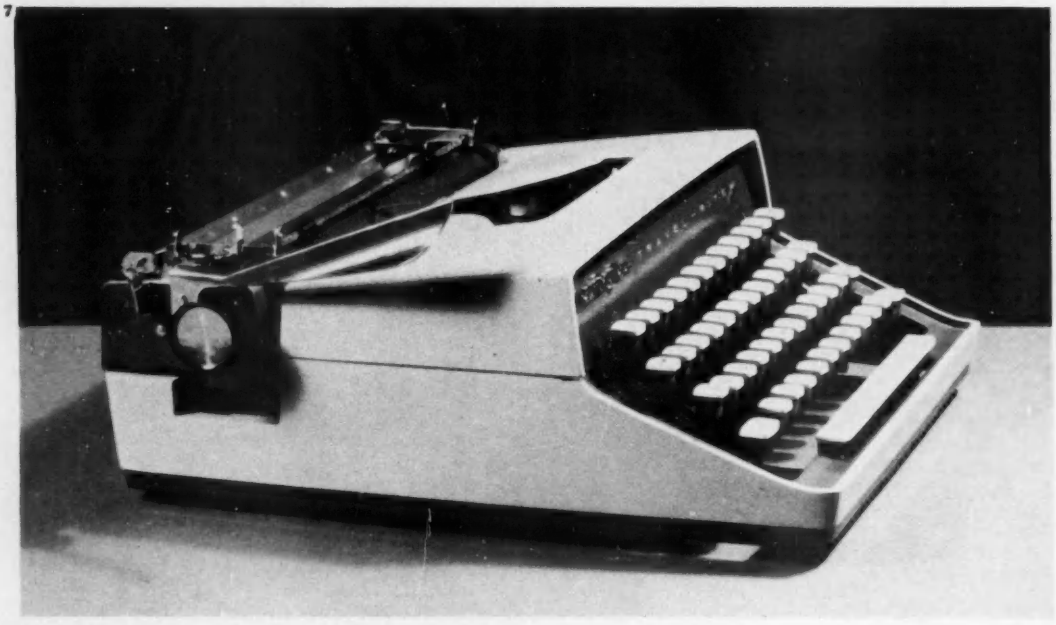

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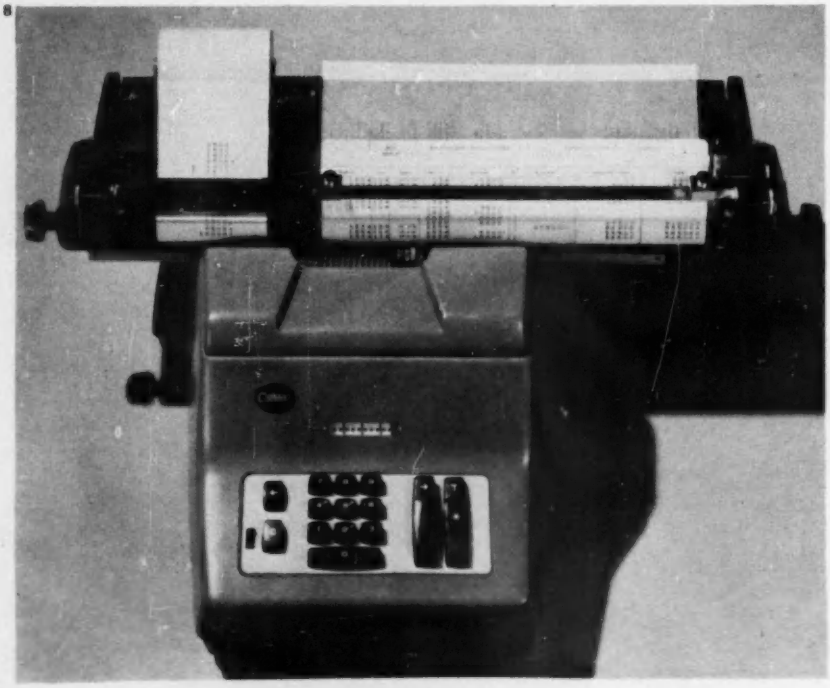

5 *Germany*. Dictating machine. Weighing only 5½ lb, this dictating machine is Olympia's latest addition to the firm's wide range of office equipment. The good appearance is spoilt only by the maker's trade mark and titling on the top surface. Many technical advances are claimed in the model. MAKER *Telefunken GmbH for Olympia Werke AG*. BRITISH IMPORTER *Olympia Business Machine Co Ltd. £61 2s 6d*.

6 *USA*. Monroe *600* calculator. This machine is made in Holland as well as the USA and was selected for display at the 1957 Milan *Triennale*. CONSULTANT DESIGNER *Raymond Spilman*. MAKER *Monroe Calculating Machine Co*.

7 *USA*. *Travel-Riter*. This new machine follows current American practice of having an inset front panel framed by the main casing, giving the effect of a hood. It incorporates a flat erasing table and collapsible paper-guide, and at present is manufactured in Holland. MAKER *Remington Rand Ltd. £27 including case*.

8 *Sweden*. Automatic book-keeping machine. The maker is affiliated with that of the Facit duplicator and maintains an extremely high design standard. CONSULTANT DESIGNERS *Count Sigvard Bernadotte and Acton Bjorn*. MAKER *AB Original-Odhner*. BRITISH IMPORTER *Block and Anderson Ltd. £445*.

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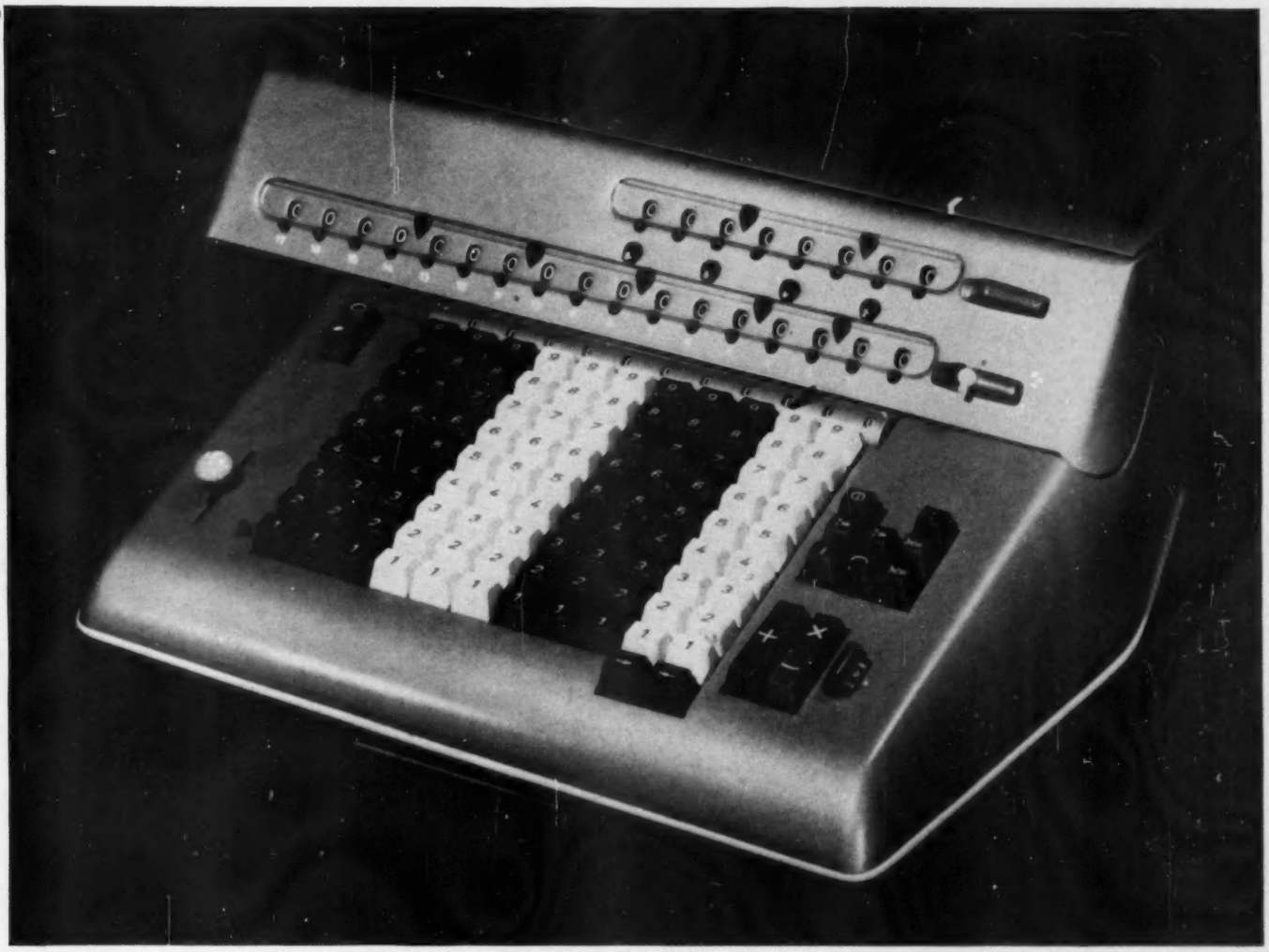

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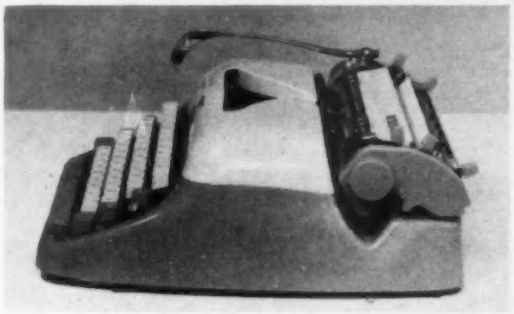

11

9 *Germany*. Badenia *VA17* calculator. This is the latest addition to the Badenia range of electric desk calculators. A retractable carrying handle is incorporated in the front and the calculator has roller feet so that it can be moved easily on the desk. It received a commendation at the 1957 Milan *Triennale*. CONSULTANT DESIGNER *Dr Braun-Feldweg*. MAKER *St Georgen-Schwarzwald GmbH*. BRITISH IMPORTER *Badenia Calculators Ltd. £350*.

10 *Germany*. *Primus* portable typewriter is typical of the unpretentious design originating from Europe. The manufacturer has a reputation for reliability. MAKER *G T A Grundig Electronic - Triumph - Adler Vertriebs GmbH*. BRITISH IMPORTER *Typewriter Sundries Co Ltd. £37 16s*.

11 *USA*. *Executive* electric typewriter. Described in more detail in DESIGN 128/55, this American-designed machine has many advanced technical innovations. The outer casing forms a frame around the darker keyboard and fascia, so that the keys stand out clearly from their background. The keyboard is covered in to prevent dust filtering through to the mechanism. CONSULTANT DESIGNER *Sundberg-Ferrar Inc*. MAKER *International Business Machines. £230*.

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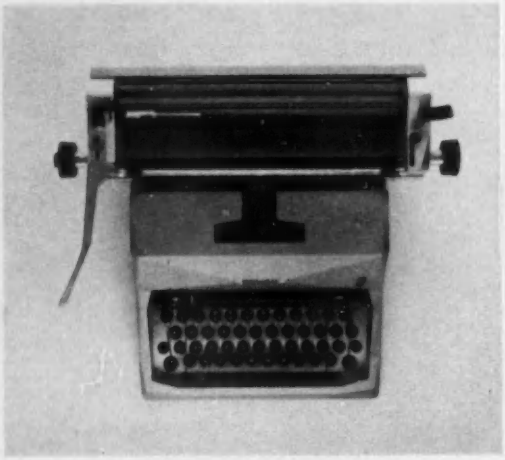


Italy: typewriter

A distinguished British designer contributes this appreciation of Marcello Nizzoli's "brilliant oddity".

The immaculate continuous form of the Olivetti *Lexicon 80* has become a classic – an exemplar for mid-twentieth century engineering design. For this to have been superseded by the new Olivetti *82 Diaspron* seemed, at first sight, an affront – self-inflicted iconoclasm with the merit only of titillating novelty.

But, recovering from the shock of seeing an Olivetti typewriter faceted like the crystals of diaspore from which the new machine borrows its name, the sensitivity of the detailing, the subtlety of the relationship between its parts and the elegance of its whole elaborate three-dimensional composition confirm that it was designed by Marcello Nizzoli (who was responsible for the earlier models), and is thus inevitably a design of enchanting excellence.

The purist may argue that the angled forms are not ideal for pressure die-casting but the production loss is, in fact, fractional, and any real opposition to the design must therefore be on aesthetic grounds. The *Diaspron* is a positive statement of design conviction. It has its present form because Nizzoli wanted it to look that way: the functional improvements on the earlier typewriters could as easily have been incorporated within the accepted Olivetti pattern.

And why should it not look the way it does? There are no rules about the proper form for a typewriter: a visit to the *Business Efficiency Exhibition* provided enough evidence to make that point, with machines on show varying from the mechanic's lash-up to ponderous streamlining. The miracle of the earlier Olivetti models was that they *seemed* to be the inevitable, automatic solution to the problems involved, while they were, in fact, as much positive design statements as is the new *Diaspron*.

So the laurels go to Nizzoli: good fortune to him if he wants to facet every corner, if his machine is so different from what the best Anglo-Saxon designer would have produced: congratulation for a design which has not been constricted by our more puritanical stance. But the honours having been awarded, real dangers remain. The Olivetti *Lexicon 80*, supported by the acclaim of the critical cognoscenti and by its international marketing success, furthered the design approach which valued serenity, meticulous detailing and lack of ostentation as the most important elements in the appearance of office equipment.

The *Lexicon* and the *Lettera* provided patterns which designers with less creative ability than Nizzoli could adapt and develop for the solutions of their own problems: the Olivetti influence could then do only good and never harm. But the *Diaspron* requires genius for its success. It is as individual as a building by Frank Lloyd Wright; for this to be emulated by designers of even slightly less ability would be disastrous – then only the mannered style would remain and none of its content.

The *Diaspron* is a machine of great refinement but it must be admired as a brilliant oddity and outside, I hope, the broad general movement in design for the engineering industries. An office in which every object was an equally positive, personal design statement would be as restless as a nightmare.

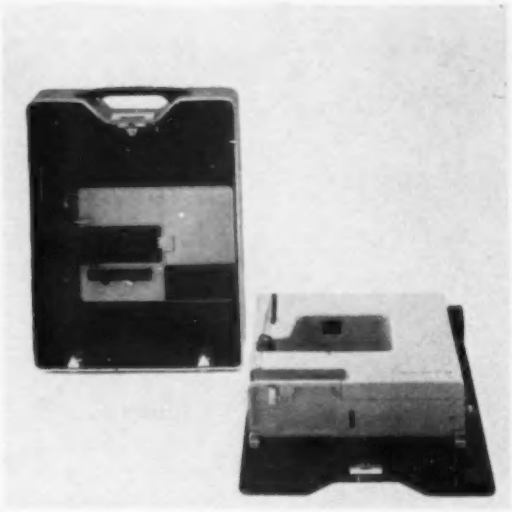
MISHA BLACK

Olivetti *82 Diaspron £67 15s.*

DIRECTIONS

A miscellany of new products and ideas from abroad

1



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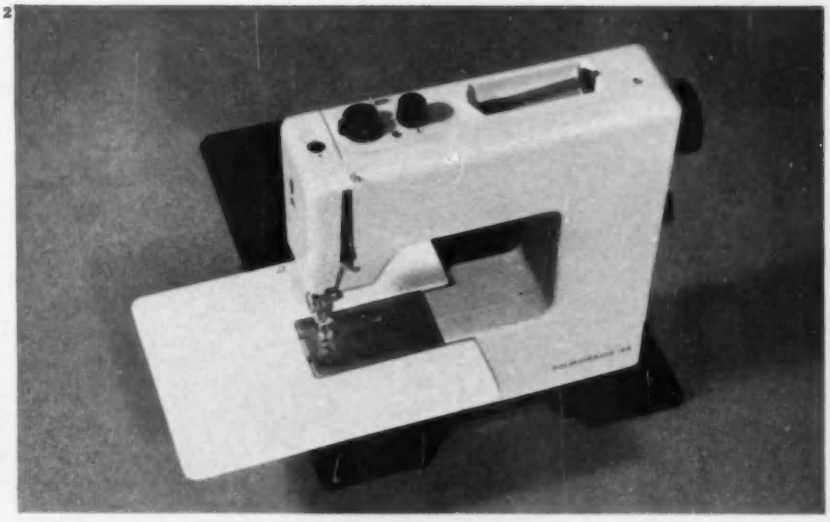
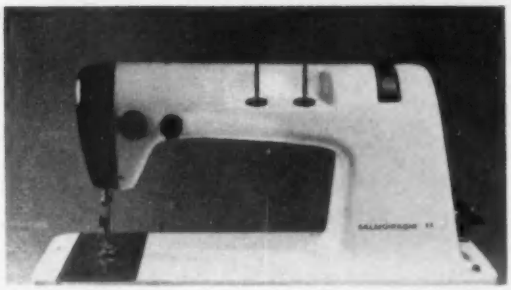


Italy: sewing machines

These illustrations show four new sewing machines which have recently been introduced. Perhaps the most interesting is the portable machine, model *44*, **1** and **2**. The base on which it stands is part of its own carrying case, and when finished with, the machine folds flat ready to receive the lid. It has a slide-on plate which converts it from a free arm to a flat bed machine, and it will sew forward and reverse, and will darn, make appliqués and hoop embroidery.

Model *11*, shown in **3**, is the simplest of the three standard machines. As in all the designs the motor, driving belt and flywheel are enclosed within the sensitively modelled housing, which in each case is cast in one piece. Models *22* and *33* shown in **4** and **5**, both use a similar shaped housing but model *33* is a fully automatic machine designed essentially for professional use and is capable of a wide range of embroidery and ornamental stitching including automatic buttonhole making and button sewing. Model *22* has fewer mechanical features but includes a patented zig-zag mechanism. The three larger machines include a built in light and all models are finished in a range of pale colours. CONSULTANT DESIGNERS *Angelo Mangiarotti and Bruno Morassutti*. MAKER *Soc Salmoiraghi*.

3



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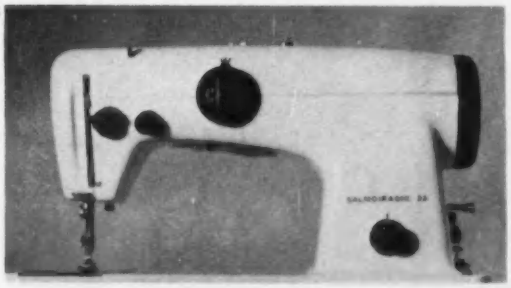

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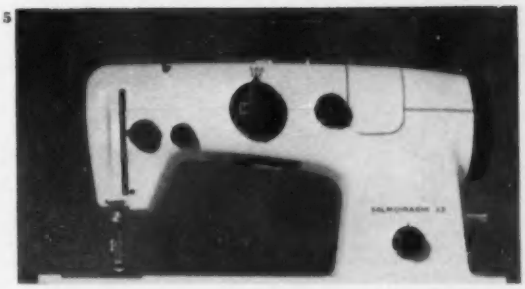


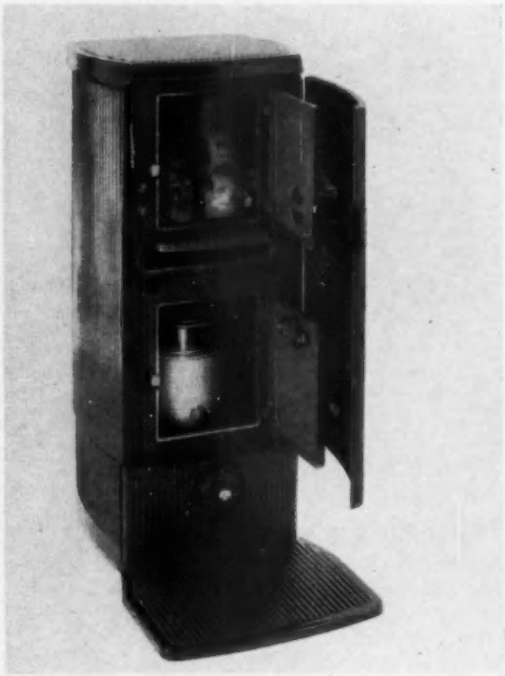
Norway: combination stoves

The two stoves shown here demonstrate an extremely interesting and unusual method of combining two different types of heating unit within a single appliance. Both stoves burn paraffin and wood either simultaneously or separately. The most recent of the stoves, type *1001*, **6**, can be fitted with a paraffin heater in the lower section to provide background space heating, while the upper section is a wood-burning open fire which can be lit, for example, in the evenings, when extra warmth is required. Alternatively, a continuous burning wood fire can be placed in the bottom section instead of the paraffin heater to provide general space heating.

The second design, type *710*, **7**, is a closed stove, but also has the same top and bottom sections, both of which provide general space heating. The top wood-burning section provides a reserve heating source if supplies of paraffin run out, or an additional heating source in very cold weather. It also allows paper and other waste material to be burned. In both models high efficiency is claimed because gases from the lower heating source radiate heat to the upper fireplace before passing out into the flue. The stoves are made of enamelled cast iron available in grey, green, brown or black. CONSULTANT DESIGNERS *Blakstad and Munthe-Kaas*. MAKER *Jötul A/S*.

6

7



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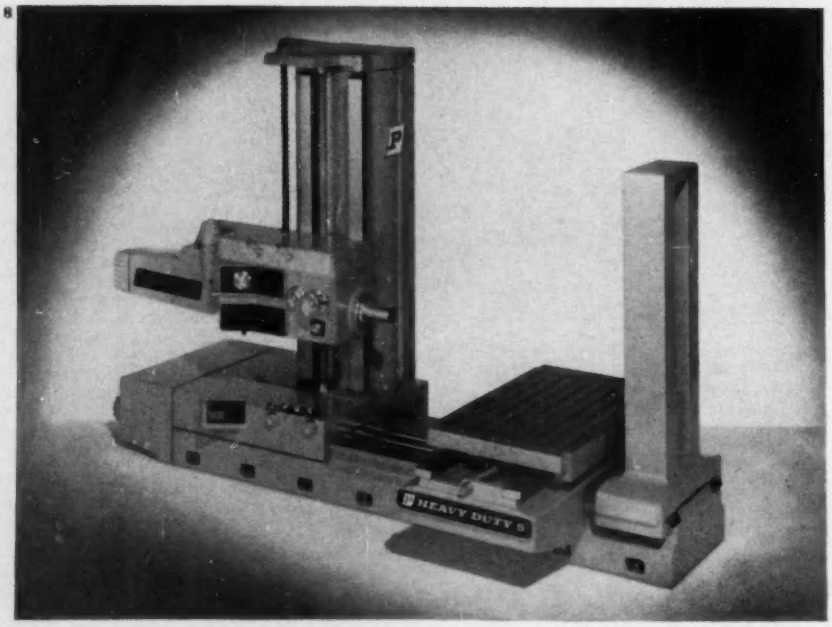


USA: machine tool

This scale model of a horizontal boring machine is a redesigned version of an earlier type. It is a 6-inch machine though a 3-inch model to the same design is also being produced. The designers have succeeded admirably in their intention of producing a feeling of precision and high quality by keeping the forms as elementary as possible and by concentrating on clear detailing of the controls. The control panels themselves are canted at an angle to facilitate viewing by the operator when he is at the extreme right of the machine. Holding bolts along the base are recessed so that there is no danger of the operator tripping. The treatment of the trade mark and logotype is effective, but perhaps over large in scale. CONSULTANT DESIGNERS *Smith, Scherr and McDermott*. MAKER *Portage Machine Co.*

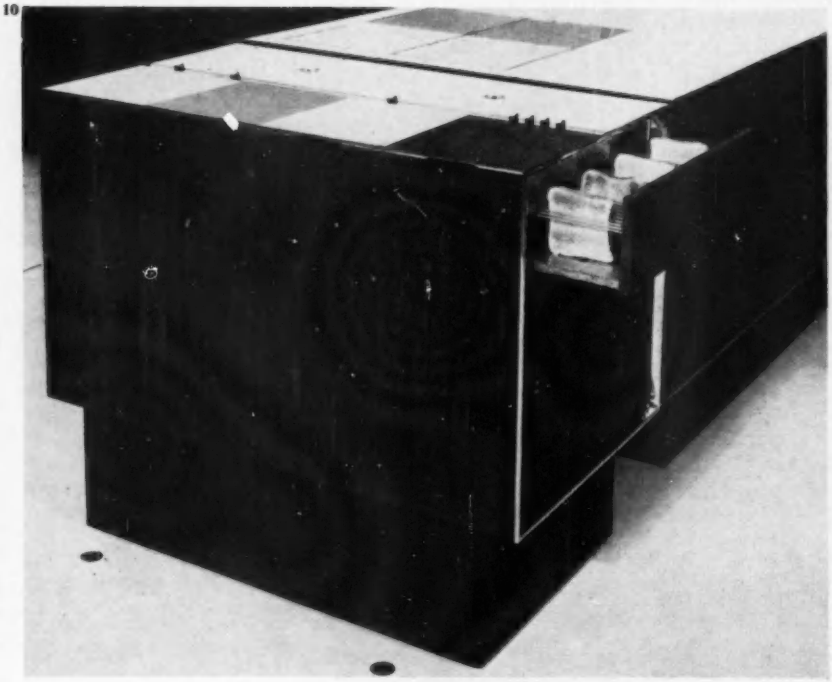
USA: gas showmanship

Further evidence of the attention being given by American appliance manufacturers to the design of domestic gas equipment can be seen in this latest 'dream' kitchen by the Whirlpool Corporation. Called the *Miracle Gas Kitchen*, it follows two years after the previous Whirlpool *Miracle Kitchen* (DESIGN 104/43 – 51) which demonstrated the possible future domestic applications of electronics. It is significant that both the electric and gas kitchens have been produced by the same company, for there is no rivalry between separate electric and gas industries as there is, for example, in Britain. The real competition is between individual firms making electric equipment, and manufacturers as a result have tended to be slower in developing appliances powered by gas. Now, however, a real attempt is being made to bring the standards of the two into line and this 'dream' kitchen has been designed to show that gas can be just as effective as electricity in satisfying the future aspirations of gadget-minded Americans. *The Miracle Gas Kitchen* designed and built for Whirlpool by Sundberg-Ferar Inc, is at present on tour in the USA and will be exhibited in most major cities.

9

9 This general view illustrates the current trend for anonymity in kitchen design – all equipment is concealed in cabinets which have identical wood finished surfaces. The table on the right has seats which are cantilevered out from the four table legs leaving the floor with a minimum of obstruction for ease of cleaning. The seats also fold away under the table when not in use.

10



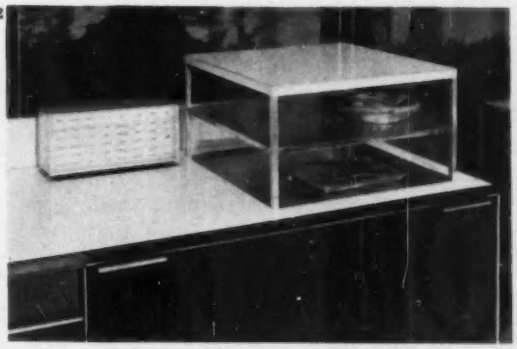
10 The pull out toaster is part of a service cart which also contains a cold storage compartment for drinks, four casserole units for keeping food warm, and a compartment for washing, drying and storing dishes: all gas operated.

11 The *Laundry Centre* incorporates a standard 1959 Whirlpool washer/dryer combination. When not in use the whole unit revolves out of sight to be replaced by a bar. Glasses and general bar equipment are housed in shelves which descend from the unit above.

12 *The Magic Meal Maker* allows a meal to be selected by push button from the frozen food compartment (the foods are shown on the indicator panel on the left). The selected foods are moved automatically to the gas oven. When cooked the oven switches itself off and rises to the position shown in the illustration ready for the food to be removed.

11

12

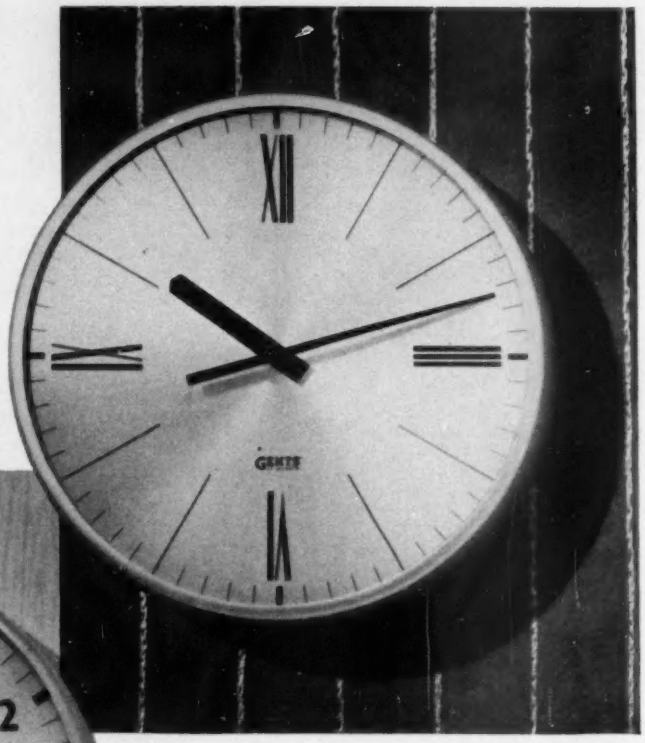


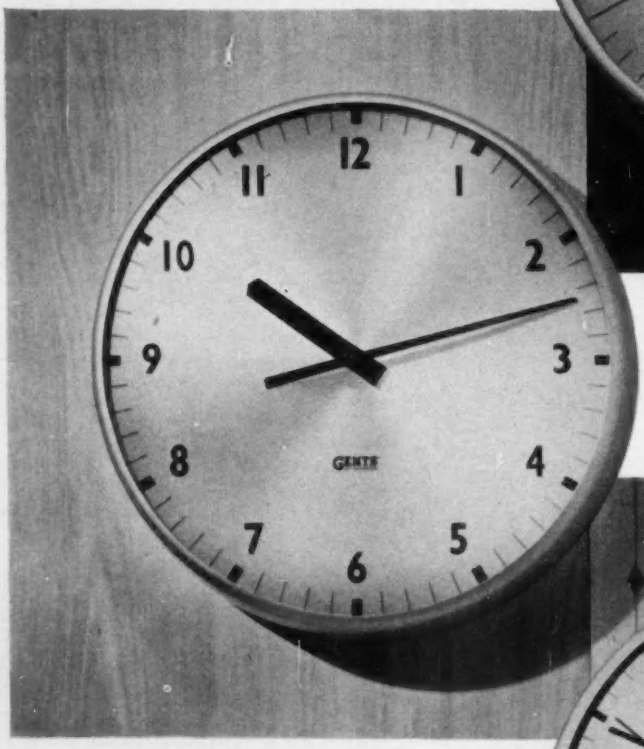
Maximum legibility and good taste are combined in the Gents wall clocks shown here.

Styled by a leading industrial designer they provide a choice of standard models which fit happily into present-day surroundings and décor.

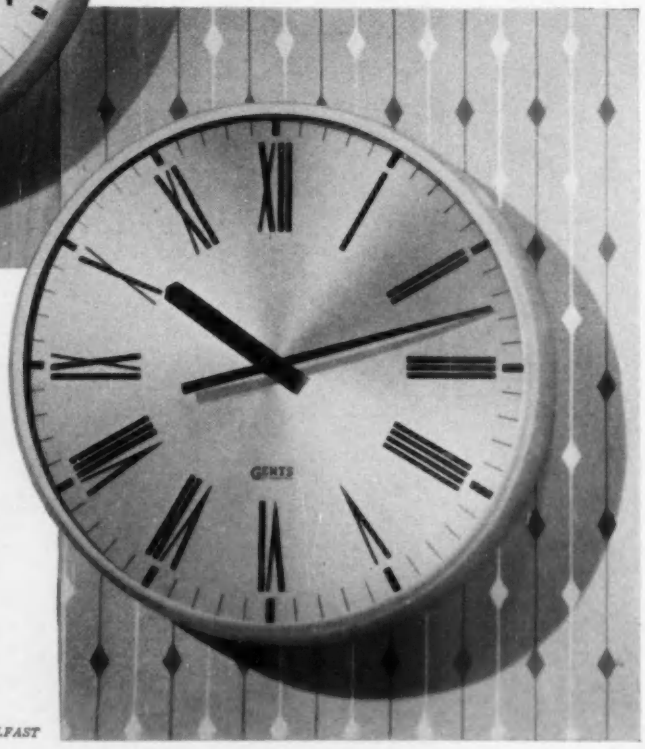
These and others in the extensive Gents range have been selected by the Council of Industrial Design for inclusion in Design Index.

All are available for operating either on A.C. Mains or as part of a Master Clock System.





In every way...Right!



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Reports

Human performance

The following reports briefly summarise the results (and their implications) of work recently carried out by the Medical Research Council Applied Psychology Research Unit at Cambridge. They have been abstracted from *Human Performance Reports, List 4*, 1958, a regular bulletin published by the unit.

PROBLEM SOLVING

A field study observed the performance of electrical technicians trying to locate a fault in standard army wireless equipment. Despite similar training, the technicians' methods of approach differed widely. However, a number of common errors occurred in strategy, particularly in testing specific components before checking which general area of the set was faulty. The set was well designed, but it was found that the handbook was difficult to use effectively. The unit suggested improvements in the handbook layout, circuit diagrams and test-gear design. (Dale, H. C. A., *A Field Study of Fault Finding in Wireless Equipment*, APU/329.)

VISION

The collision of the *Queen Elizabeth* and the sinking of the motor vessel *Pelayo* (this ship struck a breakwater, which according to radar-screen readings, was 2½ miles away) has brought into question the reliability of radar bearings. Recent work on the detection of signals on a radar screen illustrates one way in which signal detection problems are studied in the laboratory. The normal radar screen is circular, and target signals are 'painted' on by a rotating sweep. In practice, operators frequently miss signals near the periphery of the screen thus reducing the warning of approaching targets. This tendency to miss peripheral signals was verified in the laboratory, where operators used both a normal screen and one without the usual sweep.

Three attempts to direct the subject's attention towards the periphery were made. The first used only the outer half of the sweep, on the assumption that the subject's attention was focusing on the centre of the sweep. No improvement occurred. The second study required the operator to scan always from the periphery inwards. This reduced the number of peripheral errors, but more central targets were missed. A third experiment used an intermittently appearing green light as a signal for the operator to cease normal scanning and concentrate on the periphery. This reduced peripheral errors and has so far produced the most effective performance. The usual decline in efficiency with time was not at first found during these experiments, but when a more irregular sequence of signals was used, pronounced decrement occurred. Movements made by the operator increased throughout the session, the more restless subjects being the least efficient.

These results clearly have direct implications for the organisation of radar watchkeeping work and the training of operators. They confirm the already well known fact that only relatively short spells of this type of work can be tolerated, and point to a possible criterion which might be used in selecting trainees. (Baker, C. H., *Attention to Visual Displays during a Vigilance Task. 1 Biasing Attention; 2 Maintaining the level of vigilance*, APU 294/295.)

THE EFFECTS OF HEAT

Acclimatised subjects were given a dual task, the main part being to follow with a pointer the irregular movements of an illuminated disc. From time to time, lights were presented at various angles to the central task. The subjects had to press a key as soon as they detected one of these. Under high temperatures attention was 'funnelled' towards the main task, and the more peripheral signals were missed with increasing frequency. However, when the central task was made easier, the 'funnelling' effect disappeared.

This suggests that where monitoring of displays is carried out in unusually warm conditions such as mines, steelworks, engine rooms, etc, attention must be given to the design of the display so as to bring all important signals as near to the centre of vision as is practical. (Bursill, A. E., *The Restriction of Peripheral Vision during Exposure to Hot and Humid Conditions*, APU/228.)

International protection

The legal protection against copying of designs and works of applied art continues to receive more and more attention throughout the world. At the present time, many countries including Great Britain, Italy, the United States, Denmark and Japan have recently amended, or are in the process of considering amending their domestic legislation to protect this developing field more adequately. On the international level, important progress is being made. A study group from 21 countries convened at Unesco House in Paris recently to see what area of agreement existed.

It was generally conceded that business needs some form of simple international protection. The simplest would be a deposit or registration, which would then be given effect in all of the countries which became parties to the agreement. The study group approach was to ascertain a minimum level of protection to which most countries could accede. If any individual country wanted to give greater protection than the minimum required, that of course would be up to the individual country. It was suggested that due to the different legal systems, each country should be allowed to determine the form of protection it would grant – whether it would be under a copyright concept, a design registration concept, or otherwise.

Most of the experts were of the opinion that in this field – protection of original design – a requirement of novelty was not generally desirable. Several, including representatives from France and the US, favoured the copyright approach.

While there was a considerable divergence of views concerning the number of years during which a design should be protected, the majority felt that the protection should be for a term of at least 10 years.

The revision of the Hague Arrangement for the Protection of Industrial Designs is now being considered, and it is believed that the work of the study group will prove useful in those deliberations, and that eventually a more practical international protection will be achieved.

PHILIP T. DALSIMER

Australian market

According to legend it was once possible to consider a design and state with considerable accuracy whether or not it would find acceptance in Australia – always provided that the price was right. Australian taste was supposed to be somewhat similar to that in the 'Old Country', possibly more stilted and somewhat garish. Today it is no longer possible to approach the market requirement with such certainty.

This is borne out by the *Report on the Market in Australia for Domestic Pottery*, prepared by the UK Trade Commissioners in Australia, and published recently by the Export Services Branch of the Board of Trade. The report does well to stress that "Australia is not simply the 'Old Country' in the southern hemisphere". It is also problematical whether under today's conditions a homogeneous Australian taste exists. At first glance the market is kaleidoscopic – a mirror of the various trends which have swept through one world market after another during the last 10 years. Australian buyers, 12,000 miles from the source of manufacture and design, sought to follow and interpret these trends to their own market. As a result, in the words of the report, "there is available on the Australian market today a miscellany of goods capable of meeting all tastes".

Yet in considering potential designs relative to the middle market, which forms the bulk of Australian trade, there are two guiding principles to be observed. Colours must be clear and gay. Sombre tones may have a passing attraction but over the years the lasting preference is one for colours which live with the Australian sun. The other consideration relates to shape and pattern. Shapes must be practical and patterns literal. It is true that Australia passed through a phase of so called 'contemporary' design, but future trends clearly indicate a return to conventional designs verging upon 'twentieth-century Rococo'.

An influence which should not be overlooked is that created by the influx of Continental immigrants to the main Australian centres. They are bringing with them a style and sensitivity which cannot be without some repercussion on the Australian scene. It is an influence which may affect eventually our thinking in relation to the Australian market, and which serves to emphasise the fact that design for Australia – the United Kingdom's third most important market for domestic pottery – requires not only original thought, but also thought which fully understands the market to which it is directed.

RAYMOND WEIGHTMAN

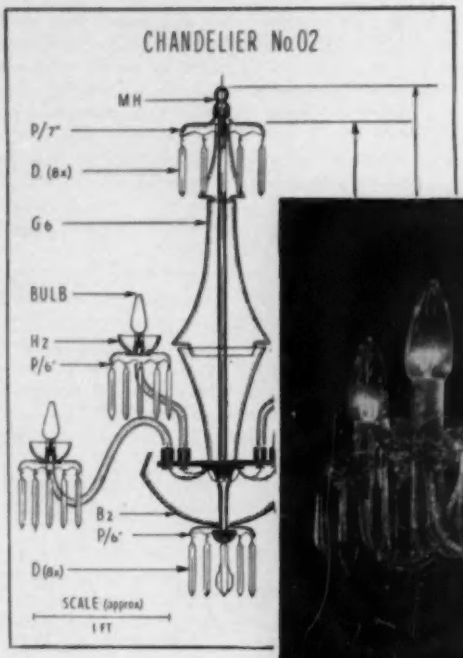
Marketing in America

How are British manufacturers to compete on favourable terms in American consumer markets? This is a recurring problem which must be faced by any exporting industry. While not attempting to provide a solution, Joseph P. Kasper certainly aims to assist British firms. His scheme whereby young designers, technicians, advertising and sales representatives work in US and Canadian stores for up to three months, will enable these future executives to get to know something of the markets in which they are competing.

As already reported (DESIGN 128/65), few, if any, firms had taken advantage of Mr Kasper's offer to send their designers to America. However DESIGN interviewed those persons who were with the pilot group and their views confirm the known attitude of forceful American salesmanship. Manufacturers exploit the American pride of possession. One of the group was told: "When two out of six houses have an item such as an electric cooker it is a luxury; when four out of six houses have one it becomes a necessity". To a lesser extent this may be true of Britain, but the tendency in America to design deliberately for obsolescence is becoming more marked, not only in cars and household appliances but also in textiles – US markets are now, of course, used to radical and sudden changes, and producers are willing to scrap any established line as soon as tastes change.

British textiles have not found the easiest of markets in the US. Lack of variety of design and inability to manufacture goods in large quantities were the main points against us. But those manufacturers with associates in America had a great advantage and could keep in close touch with market trends.

Altogether it was seen that where Britain lags is not in quality but in variety and manufacturing flexibility, while differing radically in its approach to selling.



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Miscellany

No teething troubles

Spa Brushes Ltd has recently introduced a new toothbrush, the *Spa Bristle Number One*. This was tested for DESIGN by a dentist. Three toothbrushes were used for the test, one as a control and one each in daily use for a month by the tester and his lady assistant.

The dentist reports: "As the toothbrush is large by conventional standards (the brush itself is 1¼ inches long, and consists of 50 tufts ½ – ¾ inches high, giving a convex outline), our first impression was that it might not fit into the confined parts of the mouth, ie, behind the bottom front teeth, and between the cheek bone and the back teeth. Both testers, however, found that the brush was, in fact, very comfortable to use. The brush is thorough and powerful, and the length of bristle, density of packing, and length of brush head produce a most thorough cleansing of the teeth. Only a few strokes are required to clean the teeth effectively and massage the gums, and penetration between the teeth is remarkably good. The only criticism after a month's use was that the bristles, although much softer than at first, were still a little too stiff. It is likely, however, that this stiffness will continue to diminish with use.

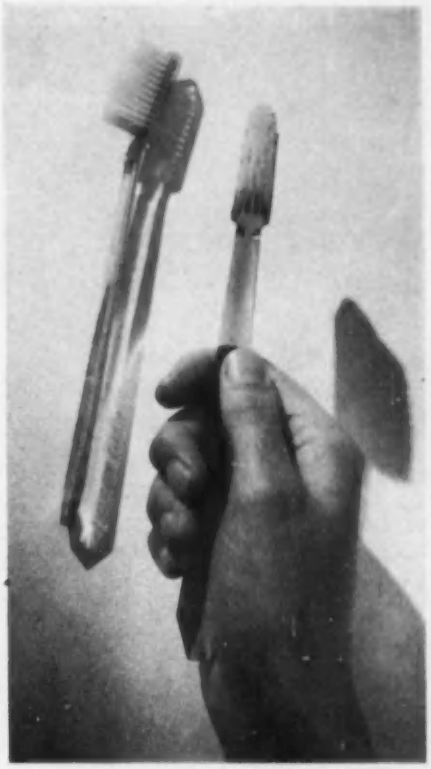
"Bristle is used for the brush head. (The writer feels that the most important factor in the choice of a toothbrush is not whether it is made of bristle or nylon, provided the bristle is of a good quality, but whether the brush itself is flexible.)

"The length of the handle (5¾ inches) is sensible, and the toothbrush did not feel oversized to the lady user. The end of the handle is well adapted to the palm, giving considerable control when it is gripped between the palm of the hand and the fingers. However, the handle is slightly angled in relation to the brush head; a straight line might have been preferable, helping the user to aim the brush more easily.

"Again, some form of shaping in the handle, about 1 – 1½ inches from the bristles, might give the user more control when cleaning the tongue side of the teeth. The lack of adaptation of the handle at this point is made more noticeable when the toothbrush is wet. (The lady tester however, had no objection to the shape of the handle.)

"In spite of these minor criticisms, this toothbrush had our full approval, and we recommend that the firm should consider producing a child's model."

The *Spa Bristle Number One* retails at 4s 6d.



Private venture aircraft

Evidence that the British aircraft manufacturing industry is beginning to pay more attention to the important problem of accommodating passengers comfortably and in pleasant surroundings, can be seen in this illustration of a mock-up of the Avro *748* fuselage, exhibited recently at the Farnborough *Flying Display and Exhibition*. Previously British firms have tended to leave this aspect of their work to the aircraft operating companies but today, when competition with other manufacturers at home and abroad is becoming more intense, and the cost of development is rising all the time, manufacturers are realising that the design of interiors is something which can no longer be left until the last minute.

The *748* is a private venture aircraft which has been designed to replace the Douglas *DC3 Dakota*. The *Dakota* has been one of the most successful commercial aircraft ever produced and nearly 1,600 are being operated. However, they are mostly old airplanes that will soon be reaching the end of their operational life, so that clearly there is a rich market for the firm that can meet similar requirements with an up-to-date machine. With its pressurised cabin, its twin Rolls Royce *Dart* propeller turbine engines and its many modern features, including a fail-safe air-frame (unusual in small passenger aircraft), the *748* promises to earn this success in world markets. Already, a contract has been signed by the Government of India to replace its *Dakota* fleet with *748*'s which will be built under licence in Indian factories.

The interior has been developed by Donald Diamond, who has had 25 years' experience in aviation and previously was head designer at the furnishing department of Bristol Aircraft Ltd. Since joining A. V. Roe & Co Ltd in June this year, he has worked rapidly to bring the design of the *748* interior to this advanced mock-up stage. The interior layout must be extremely flexible to allow for changes in passenger accommodation and complete or partial adaptation for freight services. In spite of these complex requirements, Mr Diamond has achieved an effect of simplicity and lightness. An unusual feature is the exposed trough containing the movable passenger service panels (reading lights, switches, call-button, etc). Most aircraft interiors have the spaces between the panels filled in, but this solution allows quicker adjustments and gives a less solid appearance to the luggage racks. The tourist class seats with retracting centre arm rests were designed and made to Avro specifications by Aircraft Furnishing Ltd.

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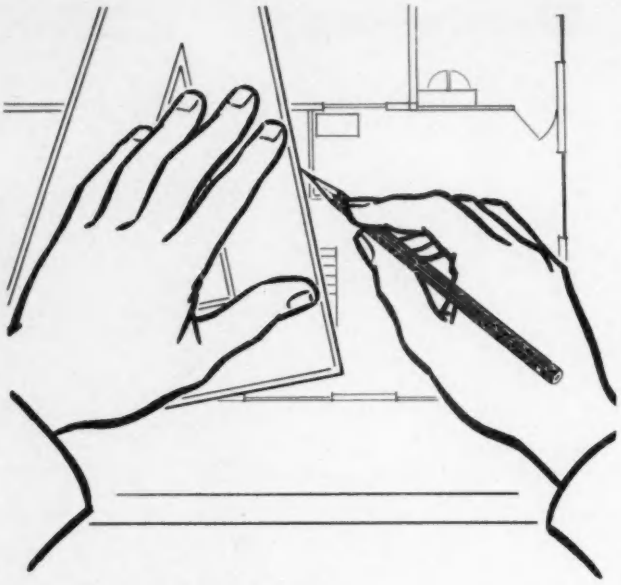

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MISCELLANY

New tea machine

In *Coin-in-Slot Catering* (DESIGN 129/48–50) some criticism was directed at the food and drink vending machine industry. Since then a challenging new British automatic tea dispenser has been introduced. Designed primarily for use in industrial canteens and for factory tea services, the *Teamatic* succeeds in attracting attention without looking like a juke box. It is finished in pale blue and yellow stove enamel, with chrome surrounds and fittings, and matt black panels.

An improved version of the display panel, which was not available when this photograph was taken, has been prepared for the production model. It will carry a visual and verbal selling message to emphasise that the tea is freshly brewed for each cup.

The *Teamatic* works by shredding a small quantity of leaf tea, infusing it with boiling water and filtering it into a cup where liquid milk from a refrigerated tank is added. The process takes nine seconds and includes a pause to allow the tea to brew. The *Teamatic*, which sets a standard for the industry, was designed by P. Tierney, a development engineer at Rank Precision Industries Ltd, on the basis of a new mechanism patented by an independent inventor, and is marketed by Machine Economy Ltd. L. BRUCE ARCHER

Church changed

Emmanuel Church, Tolworth, Surrey, has recently been redesigned by Kenneth Wood. The architect has remodelled the exterior, a new social hall has been added, and a new sanctuary and vestries have been built on to the west end of the church.

The whole of the front of the church, **1**, has been screened with a series of timber louvres, framed with an arch of Douglas fir. The arch and cross are in dark wood to contrast with the louvres which are in natural cedar.

Mr Wood was also asked as part of his contract to design furniture and fittings for the church. At the church's request these are basically simple and unobtrusive; the choir stalls, **3**, and pulpit, **5**, are in doussie and pine, and the Lord's table, **4**, is in white beech, with a black stove enamelled square section steel frame and brass trim. Fluorescent lighting is concealed in the box beams over the choir stalls, **2**; wood block is used for the floors in the sanctuary and choir; the decoration is predominantly white and grey. The general contractor was Tom Porter & Sons which also made the furniture.

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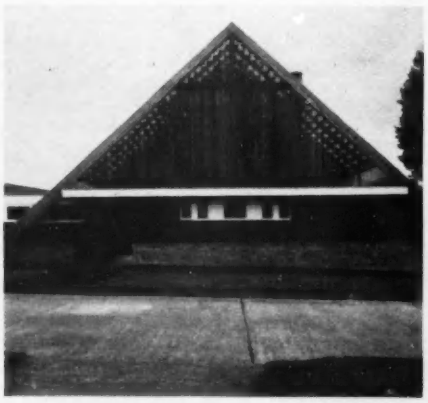

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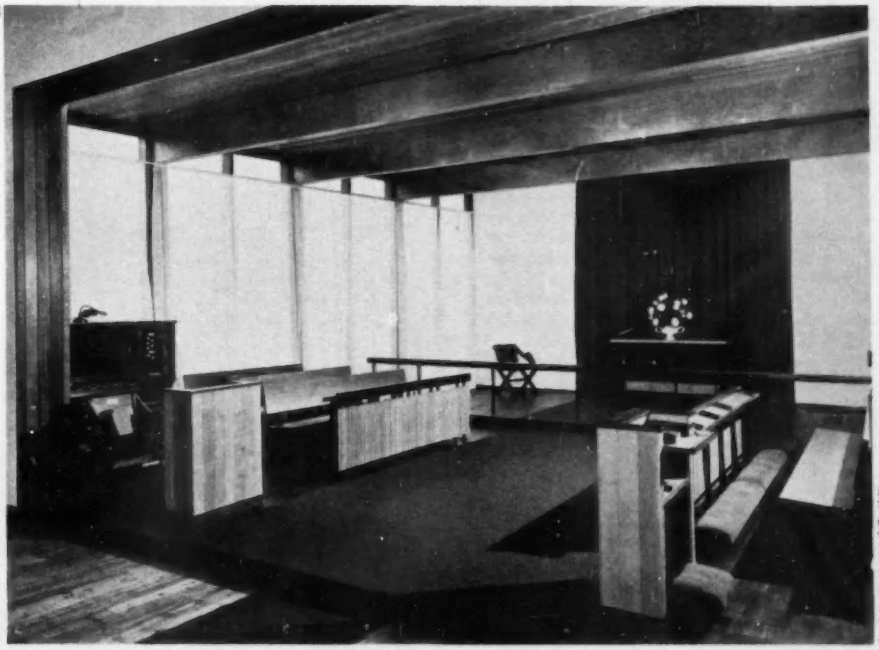

Architecture and Building

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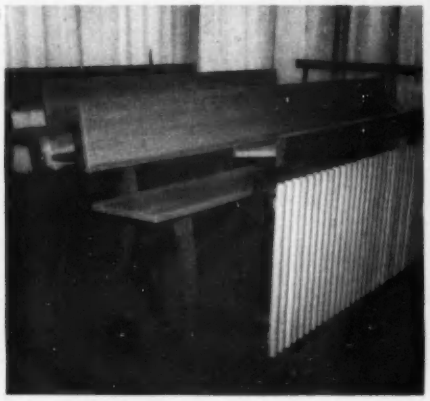

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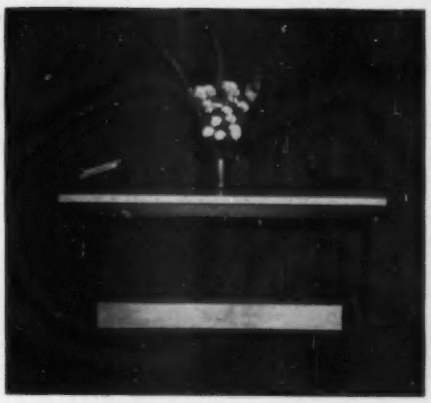

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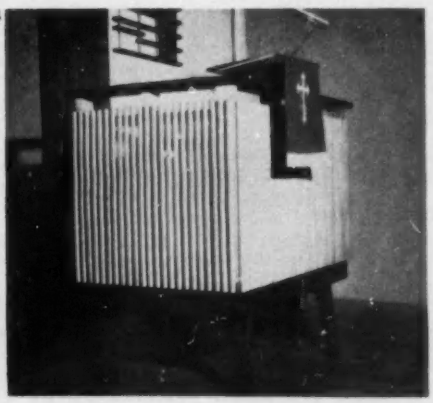

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NEWS

PEOPLE

Administrative departure

John Weyman, who retired from the CoID at the end of September, was in years of service the oldest member of the Council's staff and one of the most valued. He was appointed finance and administration officer when the CoID was first set up in 1944, when it had no offices of its own but was housed in a room in the Board of Trade. He supervised for 15 years every stage in the Council's growth and each change of address. Being responsible for all matters of administration, finance and establishment, he had to steer the Council through successive expansions and contractions, first

John Weyman

for the *Britain Can Make It Exhibition* in 1946, next for the *Festival of Britain* in 1951 and then for the opening of The Design Centre and the move from Petty France to Haymarket in 1955/56. The apparent ease and smoothness with which these operations were conducted were largely due to his backroom labours, for he had qualities, rare perhaps in an accountant, that exactly matched the CoID's needs. He understood perfectly what the CoID was set up to do; he was as interested in, and became as knowledgeable about, design as any of his colleagues; he combined rigidity of purpose and flexibility of mind in just the right proportions for such a pioneering venture. His gifts of enthusiasm, sympathy and friendship endeared him to all the staff, who wish him every success and enjoyment in his new activities. P.R.

Plane speaking

James Gardner, 54, is probably Britain's best known exhibition and display designer; best known, because his appeal has generally been to a popular rather than esoteric audience. His wide reputation is all the more

James Gardner

remarkable because he works mostly alone from a small office yet has a formidable output. He has an extraordinary capacity to handle big effects with a sense of drama which at times is almost theatrical, and while this has brought plenty of criticism it seldom fails to give pleasure to large numbers of people. His scheme for the British pavilion at the *Brussels International Exhibition* last year is a characteristic example; the majority of visitors were enthusiastic in their praise, leaving others to stare in dismay at what they considered to be a hushed and sombre view of this country's achievements.

The recent announcement of a contract for the purchase of 24 *DH 121* three-jet airliners by British European Airways draws attention to a far less familiar but equally important aspect of Mr Gardner's work. He has in fact taken a special interest in aircraft interior design and has been BEA's consultant on aircraft interiors since the war. His interior for BEA *Viscounts* is well known to travellers around Europe, while the *Ambassador* was in many ways a landmark in this field.

The *DH 121*, which is being developed by the Aircraft Manufacturing Co (a group comprising de Havilland, Hunting Aircraft and Fairey Aviation), poses a number of problems for the interior designer which were less pressing in earlier aircraft.

Modern passenger planes must be designed around rigid specifications if they are to be operated successfully and in this case the specifications have been largely

A model of the DH 121

determined by BEA which will be the main operator. As BEA's designer Mr Gardner has therefore had an opportunity to begin work at an early stage in the airliner's development and for some time has been working with the aircraft furnishing department at de Havilland's on many of the basic interior problems.

It is a rare event in this country for an operator's design consultant to have such a large say in the interior of a passenger plane. Most of the fundamental problems such as the cabin profile, luggage racks, passenger service equipment, toilets, etc, are normally determined by the manufacturer who may or may not employ his own designer. If he does not employ an industrial designer then the operator who wants a smart modern interior may have to put up with parts of the design which are below the standard he has set. By co-ordinating these two aspects of the *121* interior these difficulties should be overcome.

Already the broad outlines have been worked out in a rough wooden mock-up and final details should be completed well before the maiden flight in 1961. The first of the 24 *DH 121* aircraft ordered by BEA will be delivered by the end of 1963. But the manufacturer will need to sell many more on the open market to cover development costs and a well designed interior will contribute much to its commercial success. J.E.B.

Backroom into free-lance

Hugo Poole, 38, who has been a free-lance industrial designer since 1951, concentrates mainly on various aspects of car design. He can fairly claim to have a thorough working knowledge of the automobile industry, since before setting up his own office he served a long apprenticeship as a backroom boy in several firms. He worked his way from the factory floor (the foundry, pattern-making shop, tool room and press shop) to the drawing office (with experience of jig and fixture design, press tool design, plastics moulding, die design and body design for passenger and commercial

Hugo Poole

vehicles). In 1946 he was chief tool designer to Carbodies Ltd, in 1948 chief styling engineer to Armstrong Siddeley Cars Ltd, and in 1949 assistant chief styling engineer to Humber Ltd.

His first important commission as a free-lance was from Smiths Motor Accessories Ltd – a contract which involved designing fascia panels and instruments, radio and heat equipment. Through Smiths, Mr Poole has done work for over 25 British motor manufacturers and several Continental firms, including Fiat, Alfa Romeo, Lander, Volvo, etc.

He also designed BSA's *Beeza* motor scooter, and truck cabs for Austin and Morris 7-ton lorries. In his more recent work, however, he is breaking away to some extent from the automobile industry; he welcomes the variety of work that the field of product design offers, and the greater freedom it allows him. He recently designed a 'scooter boot' for James Neale and Sons Ltd, and is working on a further range of products for the firm, including a convector heater. (The introduction to James Neale came through the CoID's Record of Designers.) He is also developing a new outboard motor for Coventry Climax Engines Ltd; this is in glass fibre. Mr Poole designed the tools and made the mould in his workshops so that he was able to have complete control of the development of this design – an ideal arrangement from his point of view.

Mr Poole feels that his apprenticeship in the automobile industry has been invaluable to him in his work as a free-lance; he believes that no designer is fully qualified to assess or tackle product design unless he has a thorough knowledge of the engineering problems involved.

British president for ICSID

At its first assembly in Stockholm, the International Council of Societies of Industrial Design elected Misha Black as its president for the next two years. A full report on this conference will be published in the December issue of DESIGN.

Gold trophy

Ferodo Ltd has commissioned Gerald Benney to design and make a new Ferodo Gold Trophy. The trophy is presented annually for the most outstanding contribution to motor car racing. Mr Benney's recent com-

continued on page 71

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NEWS

missions include a new mace for Leicester University (DESIGN 118/34) and a range of pewter ware for Viners Ltd (DESIGN 122/39).

Consultant for aircraft interior
BOAC has recently appointed Gaby Schreiber and Associates to act as its design and colour consultant on the interiors of the new *VC 10* passenger aircraft which is on order from Vickers. Mrs Schreiber designed the interiors of the Comet IV for BOAC (DESIGN 118/35 – 38).

Industrial design lectureship
Kenneth Hume, formerly senior designer at Radiation Ltd, has been appointed to the lectureship in industrial design at the Leicester College of Art.

REPORTS & CONFERENCES

CoID annual report
The CoID's annual report was published last month. It reviews the CoID's activities during 1958 and 1959; these include the establishment and first award of the Duke of Edinburgh's Prize for Elegant Design, the organisation of various exhibitions in the Provinces and abroad, and in The Design Centre itself, and the setting up of a hotels' advisory committee to study the requirement of the hotels and catering trade. The activities of the CoID Scottish Committee are also described. The report is available from The Design Centre, 28 Haymarket, SW1, price 2s, including postage.

Design protection in the USA
The campaign for better design protection in the USA is being actively pursued despite the death of the Willis Bill. A new bill is expected shortly and the National Committee for Effective Design Legislation, on which designers, industrialists and specialist lawyers are represented, is continuing its efforts to solve the problems involved. Its recent propaganda includes an excellent memorandum entitled *Protection of Designs* which, besides discussing the USA's problems, contains an interesting analysis of the harmful effects of piracy on designers, manufacturers, distributors, retailers, consumers and even suppliers of raw materials. (See also *Reports*, page 63.)

Design oration
The Society of Industrial Artists' annual design oration will be given this year by Graham Hutton, whose theme is *Graphic Design in a Mass Culture*. The design oration will be held in the evening on December 3 at the Royal Society of Arts.

EXHIBITIONS

The long view
Packaging Perspective, the display by Transparent Paper Ltd, had, no doubt unconsciously, the effect of putting the rest of this year's *Packaging Exhibition* into perspective. For, without loss of sales impact for its standard lines, Transparent Paper had devoted the lower half of its stand to experimental work in Diophane and Diolam by six well known designers. This attempt to stand aside from the hard selling commercialism of the present was unique at the exhibition and thereby enjoyed unrivalled prestige.

Chief credit for the enterprise goes to W. M. de Majo who designed the stand and one of the experimental displays. The other five designers were Saul Bass, America; Fritz Bühler, Switzerland; Olle Eksell, Sweden; Yusaku Kamekura, Japan, and Alberto Steiner, Italy. Within the high standard to be expected from these designers, the work was uneven. Mr de Majo's gift wrapping paper, already released, is remarkably versatile, but the other designers, looking into the future, were naturally less sure of themselves. Among the best were the biscuit packs by Olle Eksell, ABOVE, and a wool dispenser by Fritz Bühler. The stand itself will be illustrated in next month's issue.

A range of packs by Olle Eksell, part of a series of experimental designs commissioned by Transparent Paper Ltd (see The long view*).*

British design in Denmark
A prestige display of modern British goods chosen specifically for Danish and Swedish markets will be on show in the Kunstindustrimuseet (Museum of Decorative Art) in Copenhagen from November 20 – 29. Erik Herløw designed the exhibition and selected the products to be displayed in consultation with the CoID. The majority of the exhibits have been chosen from the CoID's 'Design Index' and include domestic consumer goods, sports equipment, office equipment, and garden furniture, etc.

The Design Centre in Africa
The Design Centre will go to West Africa for the first time with a selective display of British goods in a retail store in Accra, Ghana, on November 16. The goods for display have been chosen from the CoID's 'Design Index', and include all categories of furniture and furnishings, as well as office equipment, sports goods, garden tools, etc. A similar display will be held in Lagos, Nigeria, early in 1960. The exhibits for both displays were chosen by the CoID in conjunction with buyers from the Kingsway organisation, which is a retail subsidiary of the United Africa Co.

Rooms for today
Rooms for Today, the autumn exhibition at the Scottish Design Centre in Glasgow, was opened on October 29 by Sir Gordon Russell, director CoID. The exhibits are shown in a number of specially designed room settings (including a bedroom, a nursery, a living room, an office and a study), and supporting displays show floor coverings, wallpapers, china, glass, cutlery, etc. The exhibition is open until December 23, weekdays 10 am – 5 pm, with late openings until 9 pm on November 5 and 19 and December 3 and 17. Visits by organised parties are welcome.

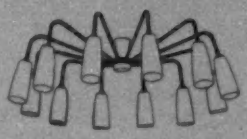
At home . . .
British Sports Trade Fair, Berners Hotel, 10 Berners Street, W1, Nov 9 – 13.
Building Exhibition, Olympia, Nov 18 – Dec 2.
National Boat Show, Earl's Court, Dec 30 – Jan 2.
Camping and Outdoor Life Exhibition, Olympia, Jan 2 – 9, 1960.
Furniture Exhibition, Earl's Court, Jan 25 – Feb 6, 1960.
International Gifts and Fancy Goods Fair, Blackpool, Feb 1 – 5, 1960.

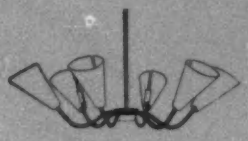
. . . and abroad
International Automation Exposition, New York, Nov 16 – 20 (details from Richard Reinbach Associates Inc, 845 Ridge Ave, Pittsburgh 12, Pa).
Canada Farm and Industrial Equipment Trade Show, Toronto, Jan 27 – 30 (details from Canada Farm and Industrial Equipment Ltd, 4969 Yonge St, Willowdale, Ontario).
Atom Fair and Nuclear Congress, New York, April 5 – 9 (details from International Atomic Exposition Inc, Reber-Friel, Architects' Building, Philadelphia 3).
International Trade Fair, Honmachi and Minato Fair Sites, Japan, April 9 – 26 (details from Osaka International Trade Fair Commission, Honmachi-Bashi, Higashi-Ku, Osaka, Japan).

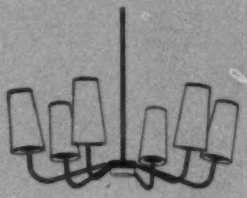
COMPETITIONS

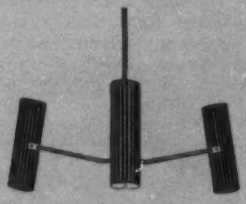
SIA rules for competitions
The Society of Industrial Artists has for several years been concerned with the conditions necessary for the right conduct of design competitions. In 1951 the SIA issued a leaflet on this subject (SIA 250 – *Regulations*

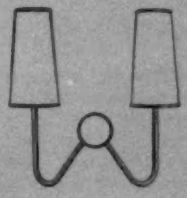
continued on page 73

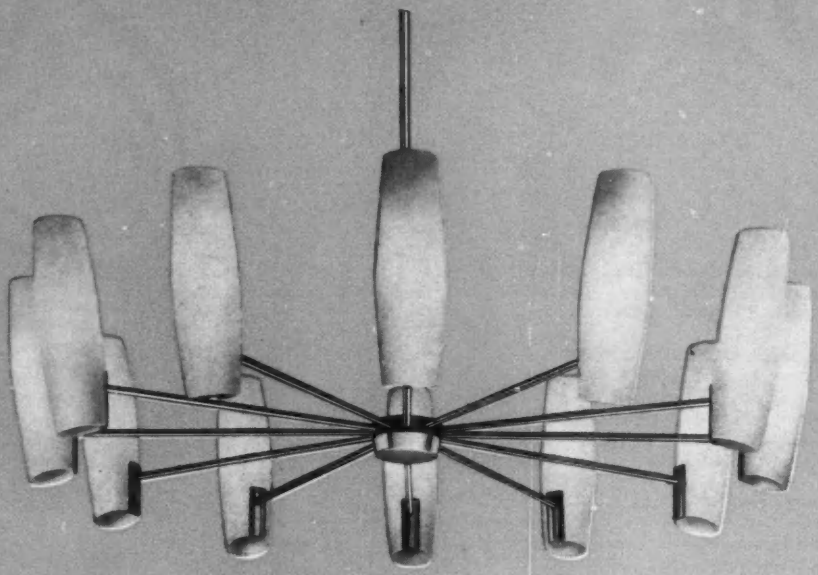












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NEWS

Governing the Conduct of Open Competitions in Commercial and Industrial Design); it is part of the SIA's code of conduct that no member shall take part in a competition, either as a competitor or a judge, if the conditions are found unsatisfactory.

The competitions committee of the SIA has ruled that:

1, the prizes offered are at least equal to the fee which would be asked for such a design by a qualified designer;

2, that at least 50 per cent of the jury is qualified by training and experience to judge the design qualities of the submissions, and

3, that any copyright conditions attached to the designs submitted are equitable.

The SIA appreciates that many organisers of design competitions would not realise the necessity for incorporating these safeguards in the conditions of the competition. On the other hand many organisers have consulted the SIA before arranging a competition, and have consequently received full support from the design profession. It is therefore recommended that before a competition is organised, the SIA's leaflet (obtainable from the Secretary, 7 Woburn Square, London, WC1) should be consulted, and the advice of the SIA obtained on the draft conditions before these are published.

Selected furniture

The CoID is collaborating with BFM Ltd and Design Research Unit to co-ordinate the central feature of next year's *Furniture Exhibition*. The CoID will select single pieces of modern furniture which are among "the best forward-looking designs in British furniture today" for special display in this central section. These must be in one or more of the following categories:

1, in current production by an exhibitor in the *Furniture Exhibition;*

2, a prototype under development by an exhibitor in the *Furniture Exhibition;*

3, a prototype under development by a furniture designer or a design school;

4, custom-built for a special client, by an exhibitor in the *Furniture Exhibition;*

5, in production under licence from an overseas furniture manufacturer or designer, by an exhibitor in the *Furniture Exhibition.*

All exhibitors in both the public and trade sections of the exhibition are invited to submit direct to the CoID details of furniture, in one or more of the categories listed above, which will be available for display in this special exhibit. The catalogues, photographs, drawings or specifications should be addressed to: Bernard McGeoghegan, CoID, The Design Centre, 28 Haymarket, SW1, and should reach him before December 1.

Light theme

Part of the Lighting Your Home *exhibition which is on show at The Design Centre until November 7. It has been arranged in association with the Illuminating Engineering Society which celebrates its Golden Jubilee this year. As well as a display of the wide range of different types of fittings now available, there are two room settings – a dining-living room, and a bed-sitting room – designed to show the best arrangement of lighting areas and spot lighting in a room.*

MISCELLANEOUS

Australian IDC offices

The Industrial Design Council of Australia, established last year (DESIGN 113/56) has opened its first office in Melbourne. This marks the first stage in IDCA's plan to establish information offices in the major capital cities of Australia. Ultimately the organisation aims to establish design centres, and develop services equivalent to the CoID's 'Design Index' and Record of Designers. The address of the Melbourne office is: ICI House, 1 Nicholson St, Melbourne, C2.

Visit to US furniture factories

The Furniture Development Council is organising a study tour of the United States. The study group will visit factories in North Carolina, Virginia, Kentucky, Michigan and Illinois. Discussion groups are planned with members of the American industry at North Carolina State University and Grand Rapids. The tour will be from June 14 – July 5, and it will cost £700 per person. Further details from A. Gordon Foster, FDC, 2 – 4 Dalmeny Avenue, London, N7.

Grants for cotton industry

The Board of Trade has announced that it will pay grants at the rate of 25 per cent for re-equipment and modernisation in the cotton industry. These grants are not intended for repairs, maintenance or replacement, and applicants will have to satisfy the Cotton Board that their proposals are part of a scheme or schemes of re-equipment and modernisation.

Attachment for TV

Now that advertisers are boasting that television can be viewed either in daylight or under full electric light, many people have complained of reflections from the plastics or glass covering of the cathode ray tube. This can be reduced by placing a mesh in front of it; the *Diavu*, an invention embodying this well known principle has been designed and patented by Captain F.C. Stubington. It must, however, be remembered that this attachment will in turn cut down the brightness and reduce to some extent the contrast, notably in the highlights. (The best solution is to position the lights or the set so that these reflections are not picked up.) The model supplied for test did not fit all sets, and the screen which is fitted with suction pads fell off after a few hours from a wooden cabinet. (The manufacturer recommends the use of a light gum if the screen is to be a permanent fixture.) At times an 'interference pattern' was noticeable. This occurs when the silk threads are almost parallel to the frame-scanning lines and can be very distracting. PETER E. M. SHARP

Glasgow cafeteria

Misha Black and Robert Gutmann of Design Research Unit have recently redesigned the Argyle Cafeteria at Lewis's Ltd in Glasgow. The illustration shows an illuminated panel (lettering by Robert Perritt of DRU) which draws shoppers' attention to the entrance of the cafeteria.

BMC in Italy

The British Motor Corporation has recently announced that Austin and Morris cars are to be produced in Italy. This arrangement is the result of an agreement with Innocenti of Milan, which manufactures heavy steel plant, and Lambretta motor scooters. The first models to be produced in Italy will be the *A40*, *A45* and Morris *Oxford*.

Manchester building centre

A Building Centre has been formed in Manchester. The aims of The Manchester Building Centre Ltd are similar to those of The Building Centre, London, to which it is affiliated. It will provide facilities for manufacturers to exhibit products used in the construction and equipment of buildings so that architects, surveyors, engineers, builders and members of the general public can see a representative selection of products available.

BS colours for gas fire

Radiation Ltd is now producing its *New World Rado-Vecta* convector gas fire in a range of 13 colour schemes

continued on page 75

One of a series of Fluorescent Fittings priced from £6 1s. 4d., which have been styled by Noël Villeneuve for commercial and industrial uses. *Brochure series 303*

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chosen from the British Standard range of colours (see DESIGN 123/34 – 40).

Change of address
Woudhuysen and Co Ltd has moved to 197 Knightsbridge, London, sw7.

LETTERS *to the Editor*

Good detailing for dials
SIR: The article *Information and Control* by B. Shackel (DESIGN 119/42 – 45) featured several of our meters, with unfavourable comments on the black 'blob' of the zero adjuster fitted to the centre of the glass.

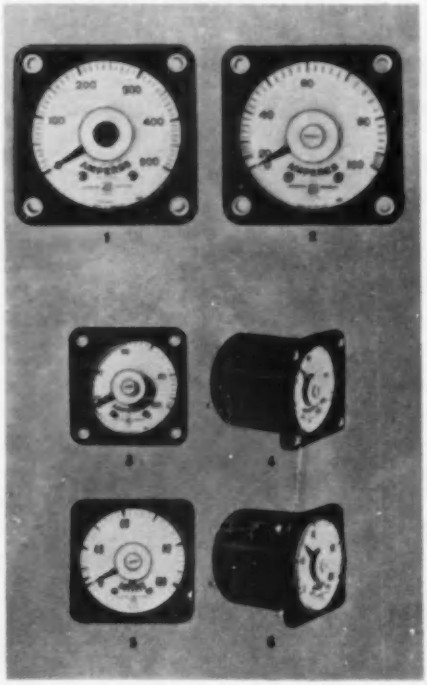
Crompton Parkinson Ltd was grateful for, and has acted on, your criticism. The firm has now changed over to a white zero adjuster and the illustrations BELOW of this instrument in its old, **1**, and new, **2**, forms may be of interest to your readers.

Another development in dial presentation on this type of instrument may also be of interest. In its standard form (which is partly based on Armed Forces specifications) the front of the zero adjuster is set back slightly from the front of the bezel. This reduces the risk of damage to the glass but does result in the dial and scale being set back in the casing. In unfavourable lighting conditions the dial can be shadowed, **3**, and the viewing angle is restricted, **4**.

In our new *Transatlantic* range of these flush-mounting circular scale instruments the dial has been brought forward to the same plane as the front of the bezel, thus eliminating all shadowing and masking effects. The slightly projecting moulded glass cover is specially contoured to avoid light striations on the dial face and the scale cardinals and figuring are bolder, **5**. The result, is, we think you will agree, an instrument which is particularly easy to read over a very wide viewing angle.

F. J. TEMPLETON
Sales Manager
Crompton Parkinson Ltd
Aldwych wc2

The Crompton Parkinson dials (see Good detailing for dials).



Painted up
New designs which have recently been introduced for a range of paint tins produced by Duresco Enamel Paints Ltd. The designs were carried out by Alan Applegate of Stevens, Plunket and Garrod Ltd.

Over-styled or lack lustre?
SIR: We recently received a copy of a letter from the managing director of Burgess Products Co Ltd in England to the president of the parent company (Burgess Vibrocrafters, Inc) in the USA, for whom we have provided design counsel for some years. We were pleased to note from the contents of the letter that the firm's *VS 800* electric sprayer had been approved by the selection committee of the CoID for inclusion in 'Design Index'.

Our English correspondent, however, offered a rather interesting note; he writes: "The selection committee's only criticism was that it felt that the design had been influenced by the American tendency to over-style, rather than to reduce a design problem to its simplest factors. However, it was recognised that the sprayer had been designed mainly for the American market".

We are very pleased that the sprayer has been included in 'Design Index', which we have come to regard with distinct respect. It is only because of this respect that I am frankly surprised by the attitude toward American design reflected in the criticism that has been relayed to us.

Having made several trips to England myself, I can easily see where certain basic differences in the two cultures might lead an English critic to misinterpret basic differences in the design of American products (as compared with English products), and attribute these differences to 'American flamboyance'. It is this same unfortunate barrier that often leads the varied peoples in our nation mistakenly to attach the tag 'conservative' or, unfortunately, even 'lack lustre' to some of the extremely handsome products that reach our stores from English sources.

It is also rather interesting to note that in America this design is considered quite conservative. In fact, Dave Chapman Inc has always had a reputation for leaning more toward simple, conservative lines, as opposed to what even we consider some of the more flamboyant, jet-propelled designs that too often characterise products in our low-price market.

FRANK CARIOTI
Vice-President
Dave Chapman Inc
42D North Michigan Ave
Chicago 11, Illinois
USA

The VS 800 *electric sprayer (see* Over-styled or lack lustre?)

Mincing matters
SIR: As a house-husband it is my misfortune to have to dismantle, clean, grease and re-assemble a dreadnought-for-your-comfort contraption known by the generic term 'mincer'. The model we have – a popular brand I am told – is I swear the worst designed piece of domestic Heath Robinsonia this dishwasher has ever encountered outside an army cookhouse.

The main superstructure of this horror is a chunk of crudely finished cast iron which appears to have been fashioned by a ham-fisted blacksmith out of scrap metal. It is roughly galvanised, weighty and cumbersome. There is a corkscrew thing which protrudes through the centre hole and links up with a couple of cutters at the other end. These are held in place by a wing nut. The whole lump of ironmongery is lashed to a table by means of a thumb screw.

I calculate that it takes me 20 minutes to dismantle the mincer, choked with bits of meat acting as seal-tight gaskets around the cutters. Much of this time is spent attempting to prise off the outer cutter with an old knife. The thing is always practically welded to the

continued on page 77

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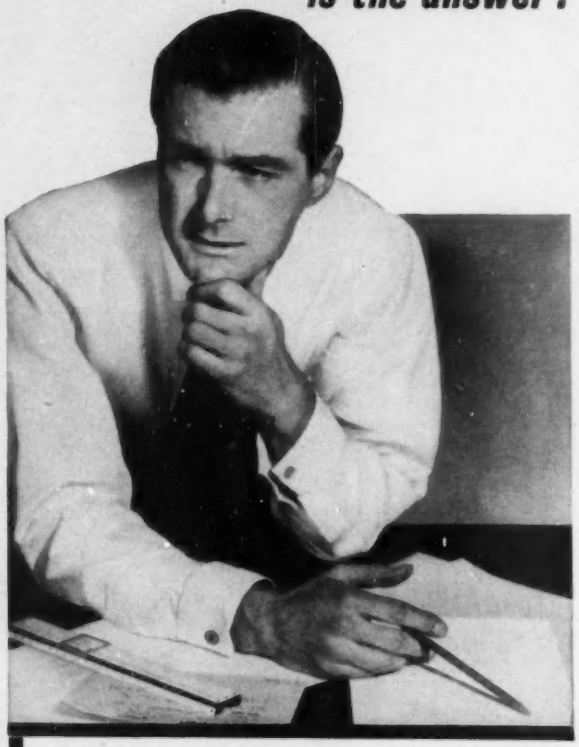

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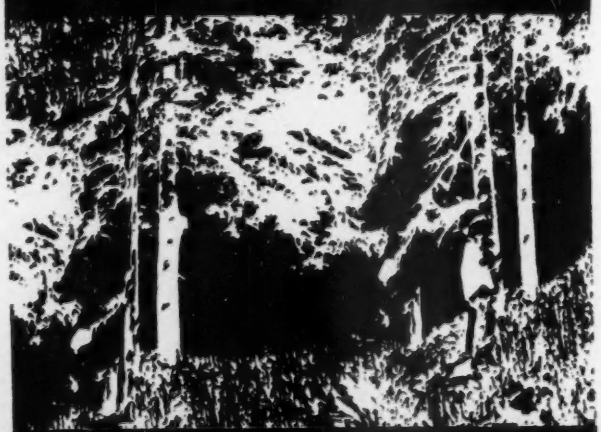


"Wynstones"—a new Fotexurprint designed by Tibor Reich, F.S.I.A., and produced by Tibor Ltd., Stratford-on-Avon.—Curtain Fabric in Pure Cotton—available at approximately 13/6d. per yd. from the leading stores. See the complete Tibor range at our London Showrooms: 8, Old Burlington Street, London, W.1.

starting handle and a lot of lard effort and damage to the knife is required before I succeed in removing it. I get the impression that everything has been constructed to fit inexactly.

A friend of mine has one of these mincers which her grandmother used before the Kaiser's war. It is exactly the same as ours bought in 1954. Progress? Good design? Please, will some kind gentleman in The Design Centre tear himself away from the spindly lamp standards and robot furniture for a moment and find me a mincer that is shapely, light, easy to clean and dismantle; in short a *modern*, practical mincer?

One cannot really blame the manufacturers. They sell their mincers, housewives buy them and put up with their inconvenience. Husbands clean and curse them. The mincers are sold by the thousand to take their places in the 'mod-conned' kitchens of Britain. Why, then, worry? Is this unreasonable? Have we the only accursed mincer in the country?

The surprising thing is that this equipment carries the seal of Good Housekeeping Institute. That baffles me even more than the mincer.

B. CLIFFORD
Die Lorelei
Connaught Road
Brookwood, Surrey

BOOKS

Prefabricated building - a survey of some European systems
OEEC (project 226), HM Stationery Office, 12s 6d
Descriptions of some 90 or 100 systems of prefabrication from Western European countries have been squeezed into the 120 pages of this report. A photograph or two, the occasional diagram, and a short text convey the information for each system.

Most of the photographs capture the essential ideas successfully, and are reproduced at large enough scale for detail to get across well.

The range of systems is unexpectedly wide. Wood, steel, aluminium, clay, concrete blocks, storey-height concrete units and half-a-dozen other classifications occur. The term prefabrication admittedly is difficult to define, but it seems to be stretched rather too far here. For example, hollow clay units site-assembled into panels or beams before use seem hardly to justify the term. And the use of small concrete blocks, even when assembled dry, would not be called prefabrication by many people.

The most difficult thing about this booklet is to decide whether it is useful, and if so, to whom. Presumably it is addressed mainly to architects, though possibly also to some builders. Unfortunately there is not enough information about any of the systems to enable one to make much use of them directly, nor is one told whether patents operate or where to find any more information about them. This is a real weakness, and reduces the status of the document to that of an interesting collection of ideas.

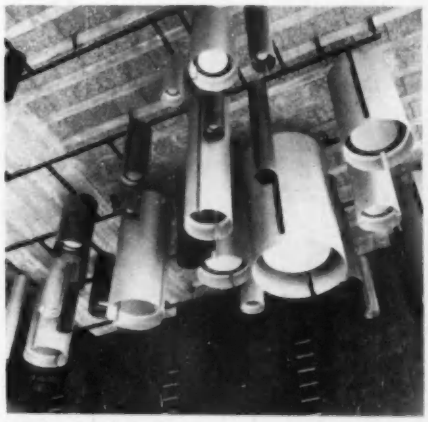
Britain in Europe
A monthly news-letter, available from Britain in Europe, *61 Catherine Place, SW1, £10 per annum*
British businessmen need no longer rely on their (invariably tatty) cuttings for keeping informed about European economic, industrial and trading developments. An authoritative stream of well-selected intelligence is now available in a monthly news-letter issued by *Britain in Europe* at a cost of less than £1 per copy. This is getting information on the cheap when realised how expensive it is – both in time and money – to keep track of any aspect of commercial development.

The contents of the news-letter are both interesting and comprehensive. The April 1959 issue discusses multilateral association between OEEC member-countries and examines the new attraction of Common Market countries for American investment. The May 1959 issue reports on the Free Trade Area of the Outer Seven and on the European Coal and Steel Community. In addition to the more sophisticated aspects of wider economic issues, practical information of real value is also given. A good example is the account of agreements between Common Market manufacturers and distributors. The growing co-ordination between businesses of all kinds in OEEC countries provides a good indication for British firms of the kind of competition they are likely to encounter – not only in exporting to Europe but also in meeting drives to import into Britain from unfamiliar quarters.

It should not be considered unorthodox for a magazine devoted to the betterment of design to pay attention to politico-economic developments such as the Common Market or a Free Trade Area. The reason for this viewpoint is easy to understand. A deepening of commercial nexus between countries must impact mutually on specifications and standards – which in the ultimate affects the shape of things. It may be a little trite, but nevertheless true, that 'the flag follows the design'.

NICHOLAS A. H. STACEY

This month's cover
This month's cover was designed by Philip Thompson, 31. Mr Thompson studied at the L C C Central School of Arts and Crafts, and then worked for five years in publishing and advertising. He has been a free-lance typographer and graphic designer since 1958, and teaches part-time at the Watford School of Art.



London headquarters
These specially designed lighting fittings in aluminium, copper and black steel are in the foyer of the Thorn Electrical Industries' building. The architect was Basil Spence and Partners. A special showroom wing has interiors by John and Sylvia Reid.

Addendum
References to past issues of DESIGN are now given in numerals indicating the issue number and the page. For example a reference to page 35 of the July 1957 issue will now read DESIGN 103/35.

DESIGNERS *in this issue*
E. R. Allan; Alan Applegate; John Barnes, FSIA; Gerald Benney, DESRCA; Berkeley Associates; Misha Black, OBE, RDI, MInstRA, FSIA; Theo Carter; Donald Diamond; John Diamond; Jacqueline Groag, FSIA; Robert Gutmann, FSIA; F. H. K. Henrion, MBE, RDI, FSIA, AGI; Jack Howe, FRIBA, FSIA; Kenneth Hume; Michael Laird; W. M. de Majo, MBE, FSIA; Robert Perritt; D. Plumb; John & Sylvia Reid, A/ARIBA, F/FSIA; M. O. Rowlands, MSIA; Gaby Schreiber, FSIA; Basil Spence & Partners; Philip Thompson, MSIA (cover); P. Tierney; Wilkes & Ashmore; Peter Womersley, ARIBA; Kenneth Wood, ARIBA.

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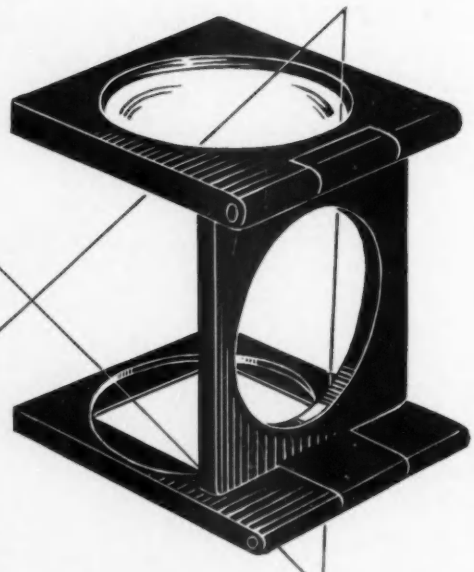

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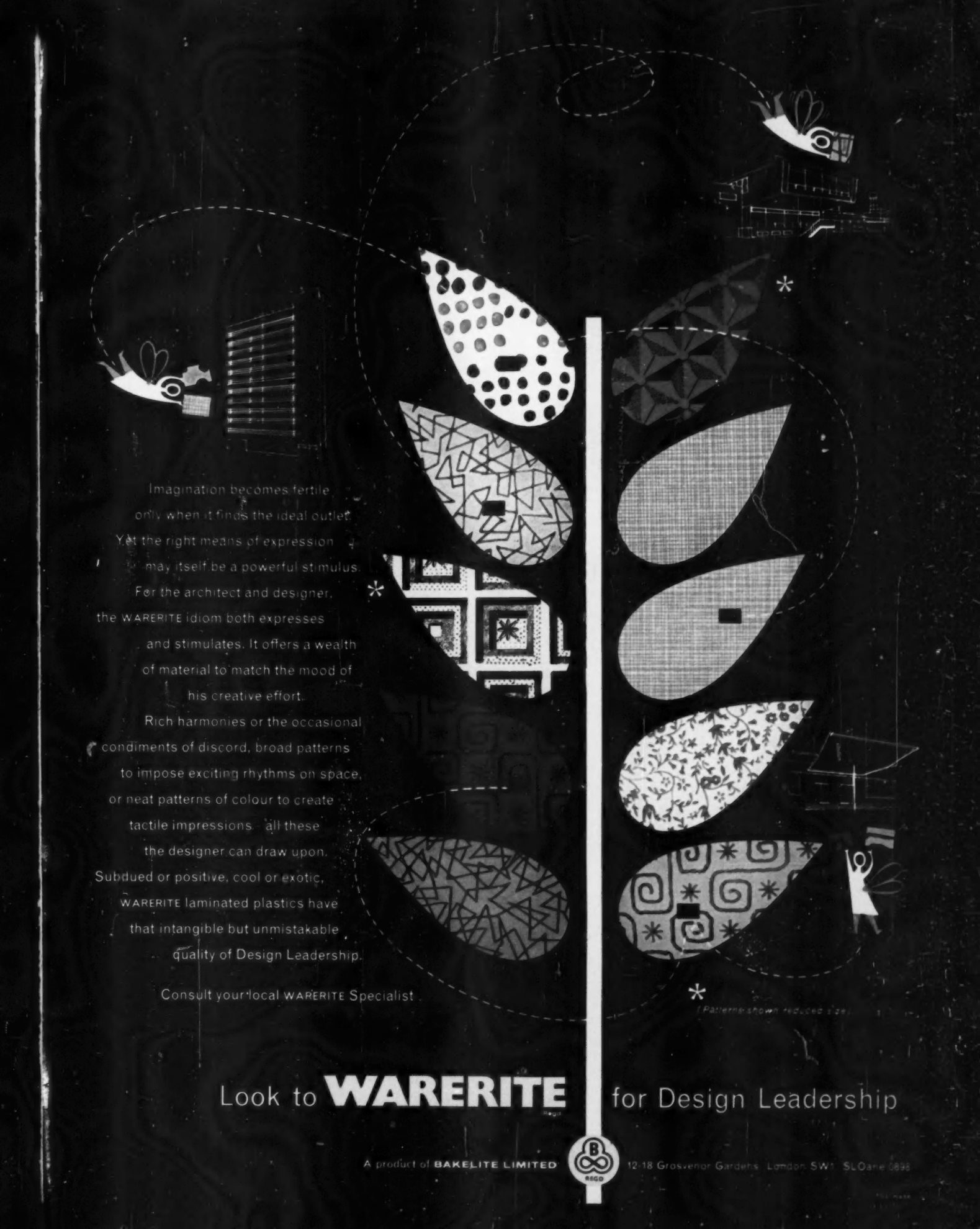
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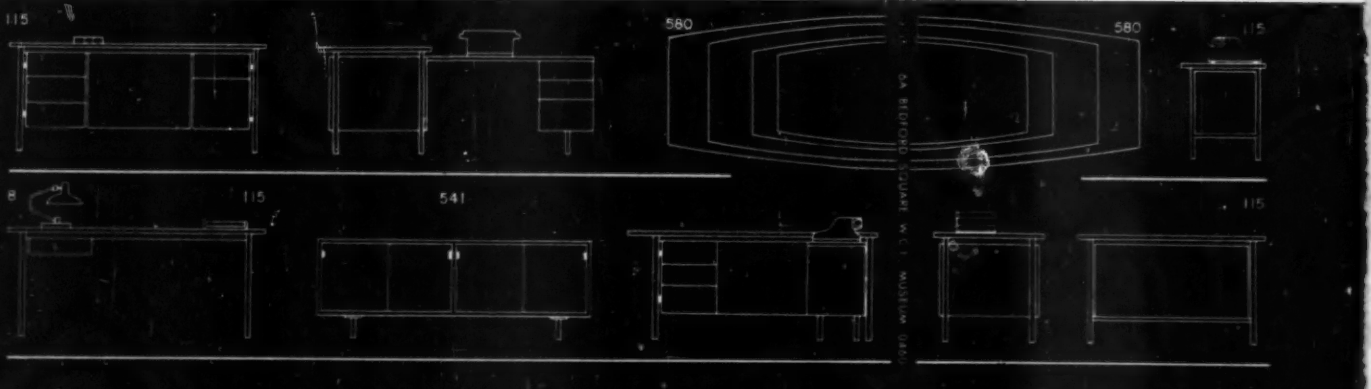
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